

## AUDIO-VIDEO STEREO RECEIVER

**KENWOOD**

# KR-V8040/V8540

## SERVICE MANUAL

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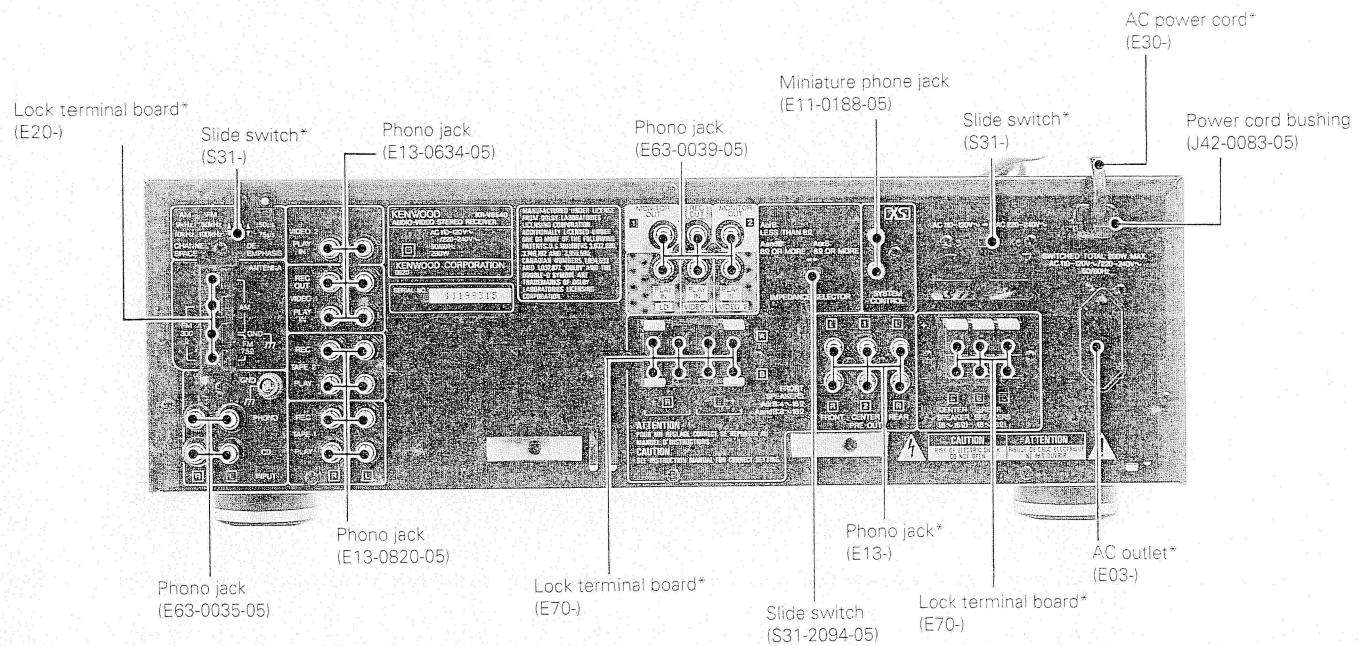
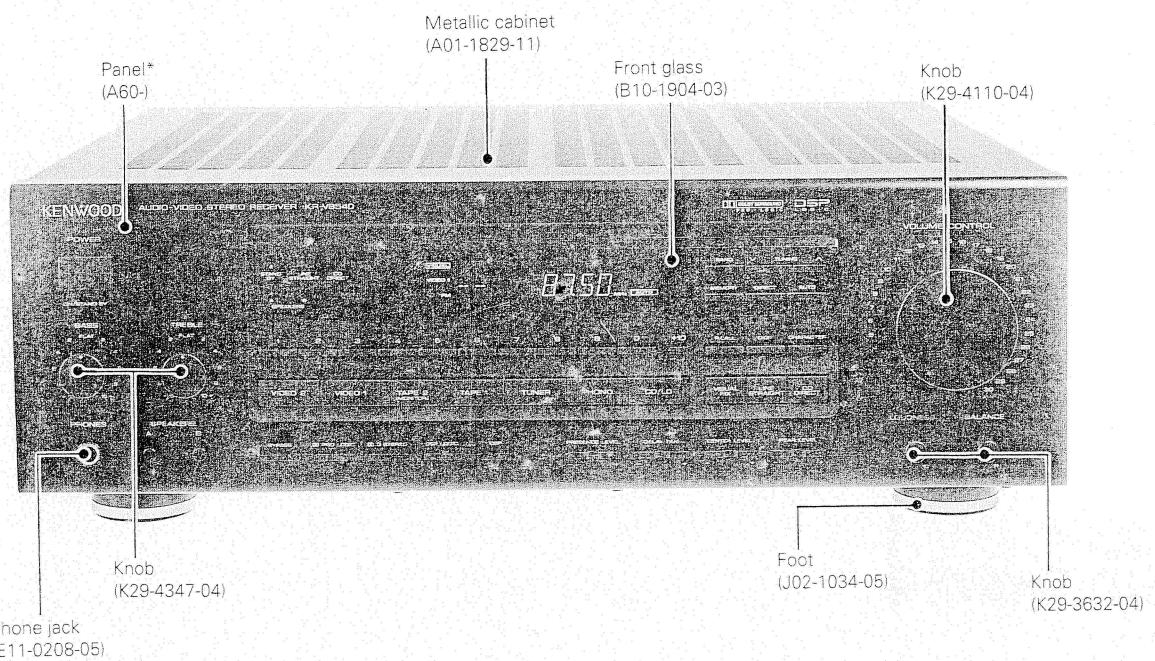


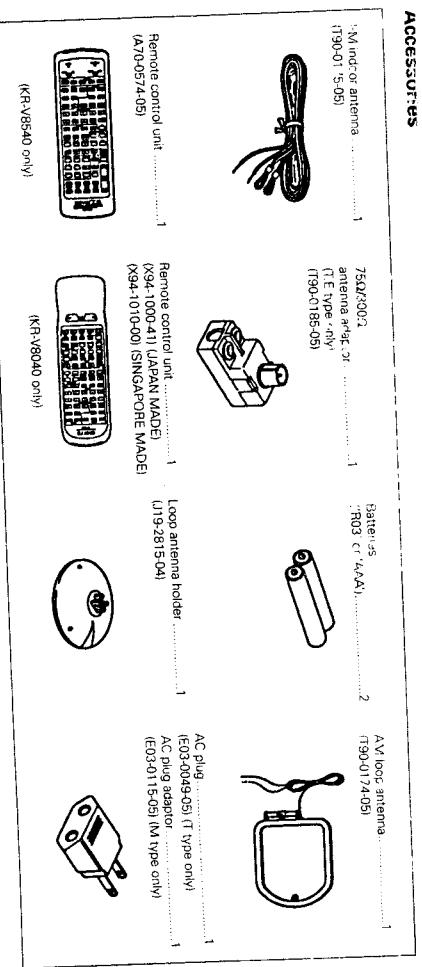
Photo is KR-V8540.  
\*Refer to parts list on page 67.

# R-V8040/V8540

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### Caution

This manual is available 2 models, KR-V8040 and KR-V8540. When using this manual, please check model's name.

The KR-V8040 and KR-V8540 are made in different countries. However, their circuits are identical.

## CAUTION/CONTROLS AND INDICATORS

# KR-V8040/V8540

### Controls and indicators

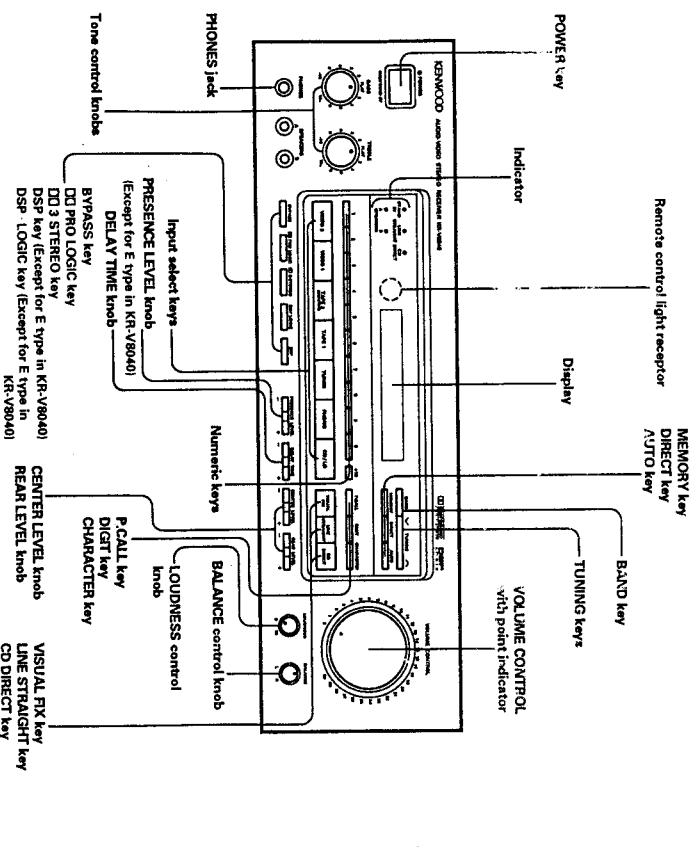


Figure is KR-V8040



## ① Presence

**Standard layout**

① Dolby PRO • LOGIC mode  
Set the center mode according to the size of the center speaker.

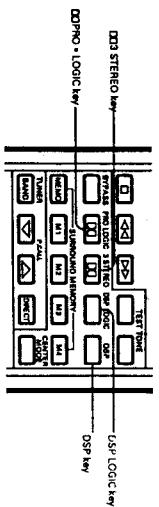
**NORMAL** : When the center speaker size is small.  
**WIDE BAND** : When the center speaker size is large or medium.

② DSP Logic mode  
Set the center mode to "4 CH MODE".

③ DSP mode  
Set the center mode to "3 CH MODE".

④ Dolby mode  
Set the center mode to "2 CH MODE".

⑤ Surround mode  
Set the center mode to "PHANTOM".



## ② Operation of Dolby PRO LOGIC

**1 Set the Dolby PRO LOGIC mode.**

② Adjust the volume balance.  
Every time the key is pressed, the center mode is switched.

• Refer to column "Center mode" below.

**2 Select the center mode.**

① NORMAL → WIDE BAND → PHANTOM

**3 Turn on the test tone.**

② Remote control unit only

**4 Adjust the volume balance.**

① Press the MODE key.

② CENTER LEVEL + REAR LEVEL +

Every time the key is pressed, the center mode is switched.

• The volume level is the same on all speakers.

• The level being adjusted is displayed.

• The center level cannot be adjusted in the PHANTOM mode.

**5 Stop generating the test tone.**

② Remote control unit only

**6 Set the delay time.**

② DELAY TIME +

② 20 ms

② Main unit

• Calculate the proper delay time for Dolby Surround by referring to the illustration below.

• The delay time can be adjusted in the range from 15 to 30 ms.

• Once a delay time is set, it is automatically held in memory so the same delay time is displayed when next Dolby Surround is switched ON later.

**In PHANTOM mode:**

① Left → Center → Right → Rear

② (L) (C) (R) (S)

**In PHANTOM mode:**

① Left → Right → Rear

② (L) (R) (S)

**Center mode**

Select one of the following center modes according to the type of the presence speakers in your system.

**NORMAL** : Use this mode with a center speaker of a compact size.

**WIDE BAND** : Use this mode with a center speaker of a medium or large size.

• If you cannot identify whether your center speaker is of the medium or compact size, try both the NORMAL and WIDE mode and use one that can provide better sound positioning.

• Even without the center speaker, the signal is processed in a simulated manner to ensure proper center image positioning and provide the enjoyment of Dolby Surround.

② Every time the key is pressed, the center mode is switched.

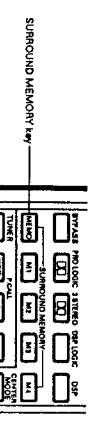
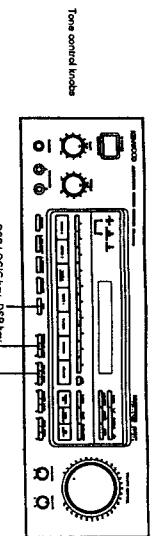
# OPERATION

KR-V8040/V8540



## ⑤ Creating a DSP sound field

## ⑥ Store a presence pattern



**1 Select the presence mode.**

Main unit or Remote control unit

Each press switches over the modes.

AREA. → JAZZ CLUB

DISCO/ROCK → STADIUM

DEP. ROCK

DEP. POP

SOURCE

LARGE THEATER ↔ SMALL THEATER

3ch ↔ 4ch

**2 Play the music source.**

Now, a sufficient sound field effect of the presence mode can be obtained. However, you can make additional adjustments as described in the following.

• Even when the following presence parameters have been adjusted, they will return to the initial setting when the Copy Surround mode or another presence mode is selected.

**3 Adjust the presence level.**

LEVEL -2+

**4 Adjust the volume.**

① Adjust the center level.

• Set within a range of -40 to 0 dB.

② Adjust the rear level.

• Set within a range of -40 to 0 dB.

**5 Adjust the sound quality. [Main unit only]**

Remote control unit

**6 Set the delay time.**

DELAY 20-

**1 Select or create the presence pattern to be stored.**

• BYPASS cannot be stored.

**2 Press the SURROUND MEMORY key.**

• The unit enters storing standby mode.

**3 Press the M1 ~ M4 key.**

M1 M2 M3 M4

**4 Listening using a presence pattern**

To recall a pattern from the Surround memory, Press one of the M1 to M4 keys to recall pattern directly from the Surround memory.

**5 Listening to all preset stations in sequence: PRESET CALL**

PRESET CALL

**6 Listening to all preset stations in sequence: PRESET CALL**

PRESET CALL

Main unit

Remote control unit

• Set in 2 dB steps within a range of 20 to 0 dB.

• The delay time can be adjusted in 1 ms steps within a range of 1 ms to 50 ms.

# OPERATION

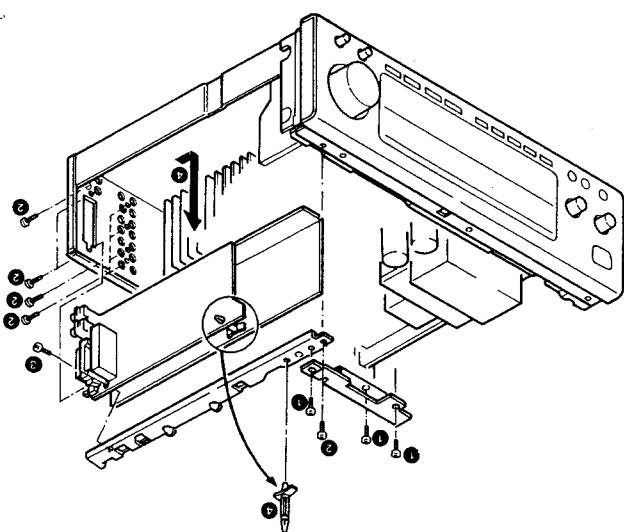
# KR-V8040/V8540

Main unit

Remote control unit

Preset stations are received in order of 1, 2, 3...20 every time the key or the key on the remote control unit, preset stations are received in order of 1, 2... every time the key is pressed, or in order of 20, 19... every time the key is pressed.

Holding one of these keys pressed recalls the preset stations in sequence at 0.5-second intervals. When the key is released the current preset station is received.



3. Remove the one screw (3), frame, and crammer (4).

A spark may be generated.

1. Remove the three screws (1), then remove the frame.

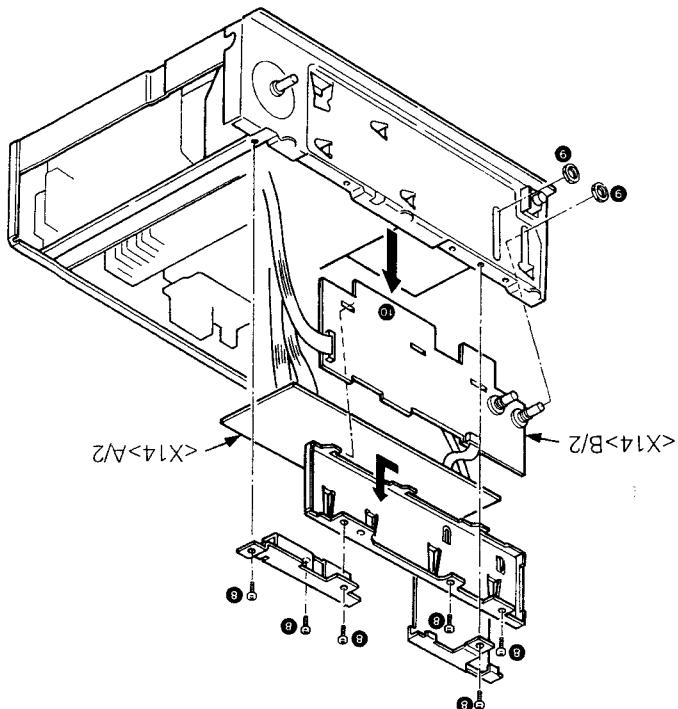
2. Remove the nine screws (2), then remove the PC

boards.

Notes: If the main VOL body shorts the +B line of class

boards.

## 2) Removing the tuner and selector PC boards (X13)

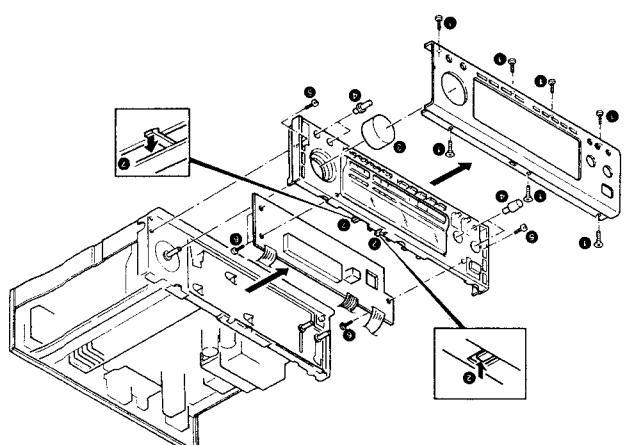


Put the boards on the cloth on the set.)

8. Remove the two nuts (9) and remove the DSP board

(Pay attention to the claws.)

7. Remove the six screws (8) and remove the bracket.



6. Remove the eight claws (7), then remove the FL PC

board (X14-A/2).

5. Remove the three screws (6).

first.

4. Remove the two screws (5), then remove the sub

panel.

3. Remove the BASS, TREBLE, LOUDNESS, and BAL-

ANCE knobs (4).

2. Remove the volume knob (3) of sub panel.

1. Remove the seven screws (1), then remove the front

panel while pressing the claws (2) of front panel.

1) Removing the front panel, sub panel, FL PC

board (X14-A/2), and DSP PC board (X14-B/2)

board (X14-B/2), and DSP PC board (X14-B/2)

board (X14-B/2), and DSP PC board (X14-B/2)

board (X14-B/2), and DSP PC board (X14-B/2)

# KR-V8040/V8540

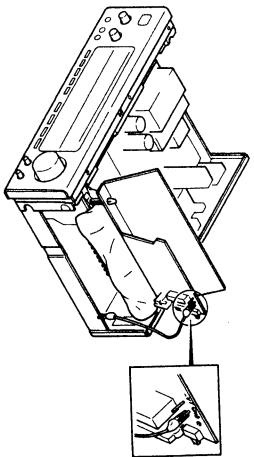
## DISASSEMBLY FOR REPAIR

## DISASSEMBLY FOR REPAIR

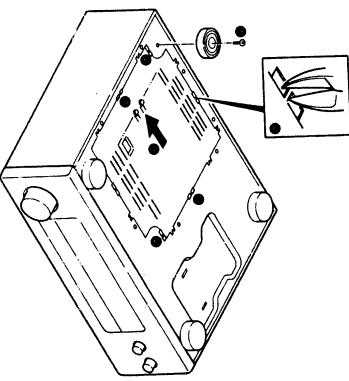
## DISASSEMBLY FOR REPAIR

4. Install the frame to former position by two screws, and insert the clammer in frame.

5. Insert the clammer into the front hole of the X13, E15 and fix it temporarily.  
(Lay a cloth on top of the rear panel and connect the board ground.)

3) **Removing the repairing chassis**

1. Remove the one foot. (●)  
2. Cut the six parts (●) of the repairing chassis, then remove the repairing chassis in the direction of arrow (●).

4) **Removing the main chassis**

1. Remove the front panel and sub panel (Refer to 1).  
2. Remove the five screws (●) at the rear panel.  
3. Remove the two screws (●) at the PC board, and the four screws (●) at the power transformer.



4. Place the spacer (a notebook, etc.) on the power transformer so that it is the same height as the top of the case, and turn the set over without slipping the transformer. (●).

5. Remove the four screws (●).

6. Remove the main chassis while pressing the rear panel in the direction of arrow (●).

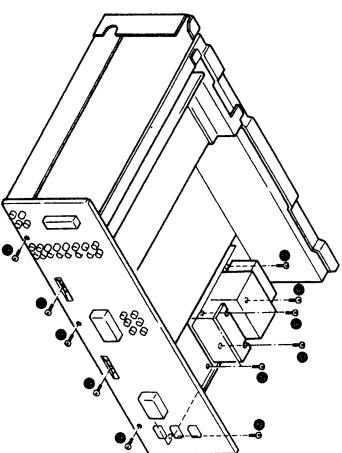
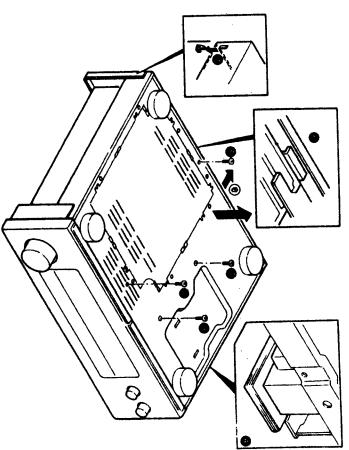
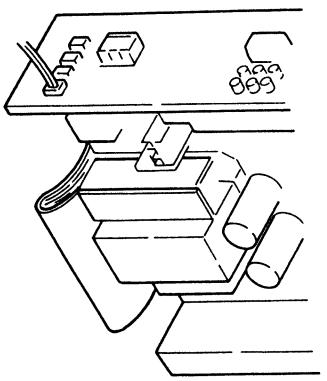
7. Place a spacer on the left side of the power transformer and stand the set with the transformer downward.

Note: Confirm that any transformer parts or jumpers

do not touch other parts, then check conductivity.

8. To install the bottom chassis  
Push the center of the bottom of the rear panel in the direction of the arrow (●) in the same way as for removal, and insert the bottom chassis from the rear side of the chassis.

3. Turn the repairing chassis 180 degrees (●), then lock to the main chassis by eight screws (M3 x 6) (●).  
Assemble the set being careful to the projection (●). Confirm that the panel side claws have been fitted properly. (●)

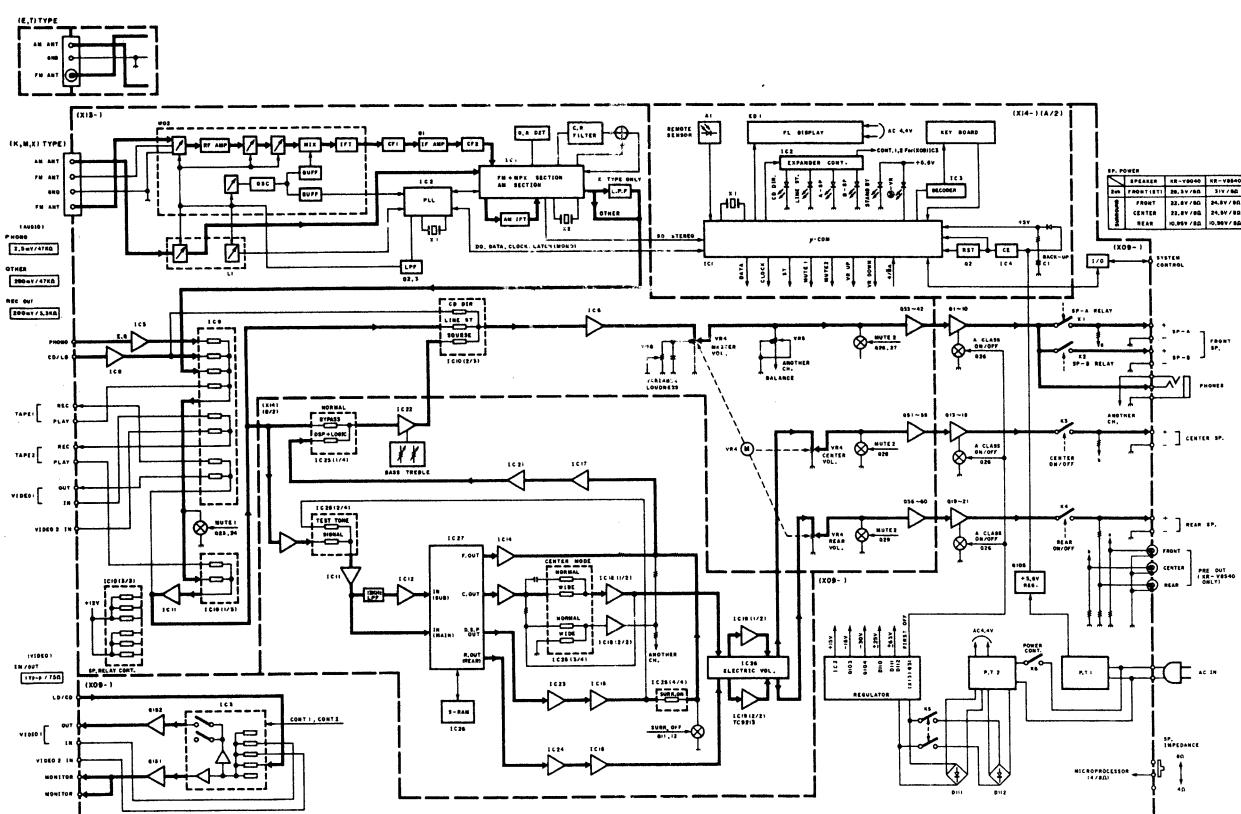
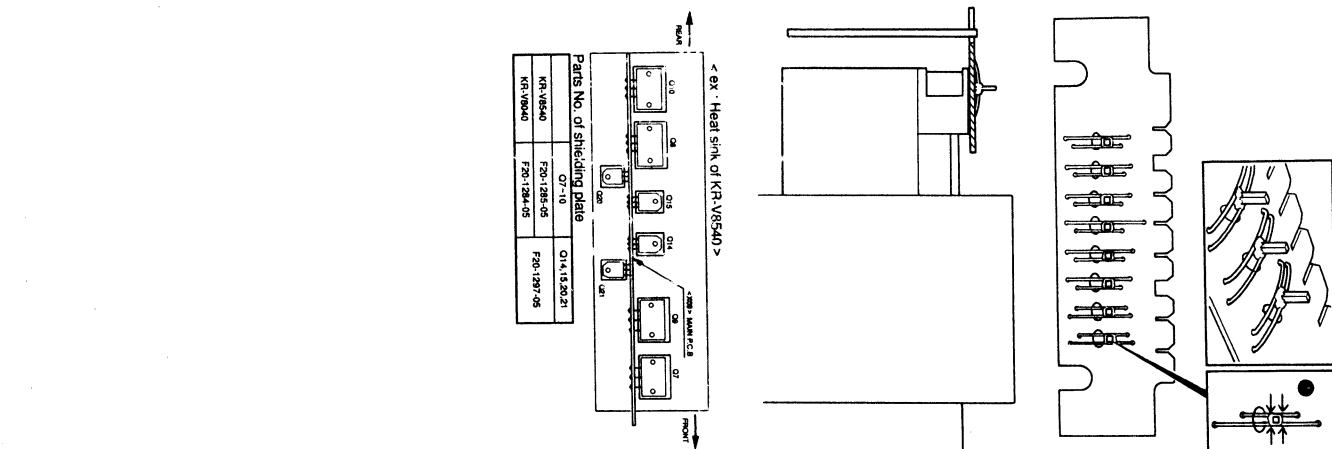


## DISASSEMBLY FOR REPAIR

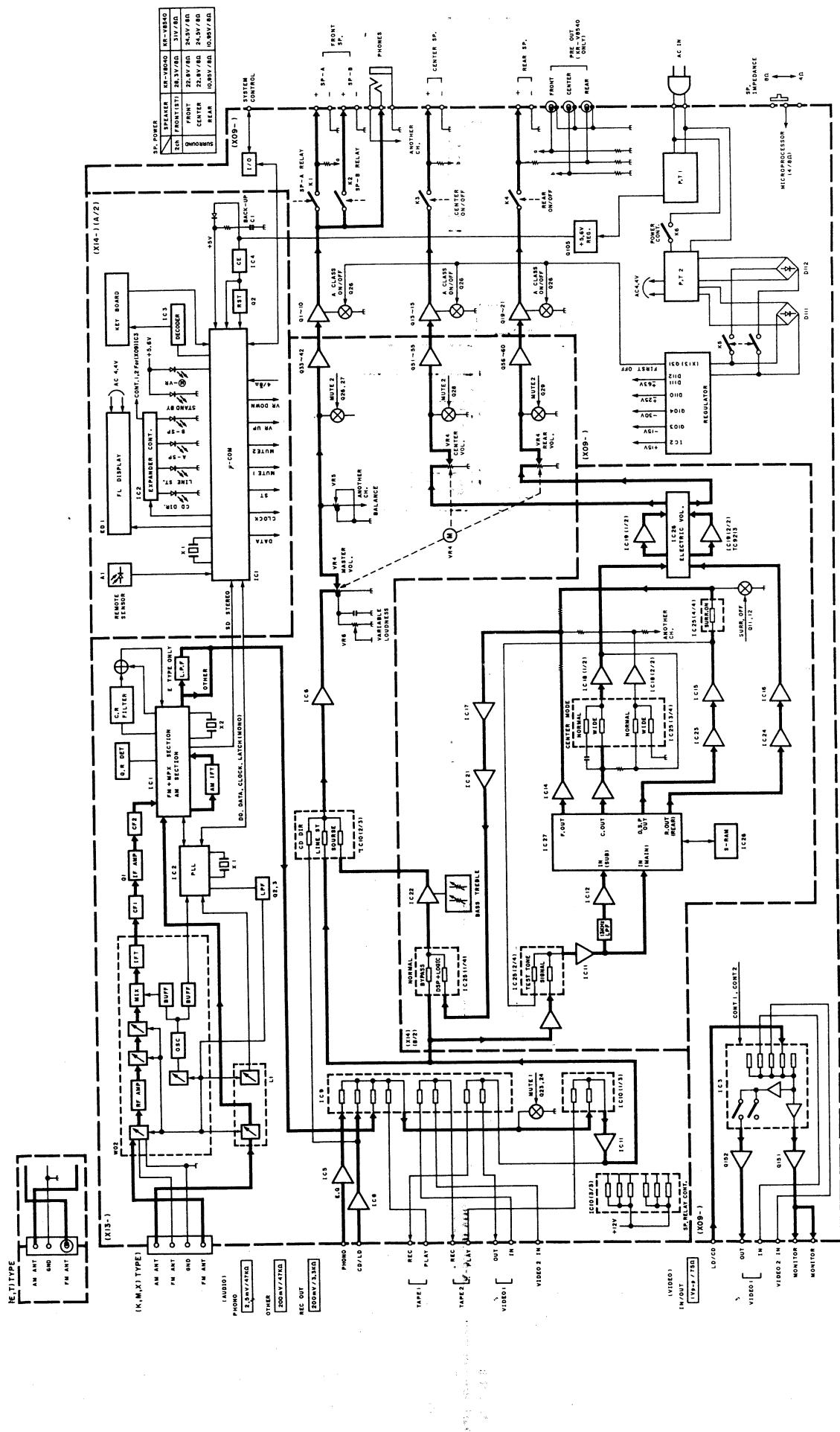
## BLOCK DIAGRAM

## **E) Notes for soliciting the secondary side of the**

1. Press the jumper in the direction of the arrow ● with radio pliers so that the large area of the jumper contacts the square pin. Place solder around the square pin uniformly and take care not to spill solder over the board.
2. Solder the board at the secondary side of the transformer in parallel to the mold to prevent any gap between the board and mold.
3. The clearance between the fuse board and transformer body must be as large as possible.



## BLOCK DIAGRAM



# KR-V8040/V8540

## CIRCUIT DESCRIPTION

# KR-V8040/V8540

## CIRCUIT DESCRIPTION

### 1. Receiver microprocessor: CXP50124-139Q (X14,IC1)

#### 1.1 Function description

- 1) Future
  - Audio selector (7 channels)
  - CD/D, PHONO, TUNER, TAPE1, TAPE2, VIDEO1, VIDEO2.
  - Visual selector (3 channels)
  - CD/D (PLAY), VIDEO1 (PLAY/REC), VIDEO2 (PLAY)
  - CD DIRECT
  - LINE STRAIGHT
  - SURROUND MODE
  - DOLBY PRO LOGIC, 3-STEREO, \*DSP LOGIC.
  - \*DSP
  - CENTER MODE
  - NORMAL, WIDE, PHANTOM (DOLBY PRO LOGIC)
  - NORMAL, WIDE (3-STEREO)
  - 3 CH, 4 CH (\*DSP LOGIC)
  - \*DSP MODE
  - ARENA, JAZZ CLUB, STADIUM, DISCOTIQUE
  - \*DSP LOGIC MODE
  - LARGE THEATER, SMALL THEATER
  - User memory
  - Store the four presence patterns
  - Contents: Surround mode, Center mode, Delay time, Center level, Rear level, Presence level.
  - Store the twenty preset stations and station names.
- 2) Protection
 

If protection occurs when the power is on, all the keys except the POWER key are disabled and "PROTECT" is displayed.
- 3) Frequency memorized for each PRESET channel when the memory is cleared (Test frequency)
- 4) Speaker switch
 

The setting of the 4/8Ω speaker switch on the rear is read when you press one of the following keys:

POWER, SP A, SP B, PRO LOGIC, 3-STEREO, DSP, DSP LOGIC

  - ① 8Ω (Speaker impedance) A+B: Impossible, A or B: Possible, Surround: Possible
  - ② 4Ω (Speaker impedance) When the surround function is OFF: A+B: Possible When the surround function is ON: A + B: Impossible; A or B: Possible

\*1700kHz is set for WIDE only.

### 1.2 Initial Setting

#### 1) Function initial setting

POWER	OFF
SELECTOR (AUDIO)	TUNER
SELECTOR (VIDEO)	VIDEO1
TAPE 2	OFF
CD DIRECT	OFF
LINE STRAIGHT	OFF
SPEAKERS A	ON
SPEAKERS B	OFF
BAND	FM
FREQUENCY	87.5 MHz
AUTO/MONO	AUTO
FL DISPLAY OF PRESET CHANNEL	"—"
SURROUND	BYPASS
CENTER LEVEL	-10dB
REAR LEVEL	-10dB
CENTER MODE	
PRO LOGIC	NORMAL
3-STEREO	NORMAL
DSP LOGIC	3 CH

### 1.3 Test Mode Setting

#### 1) Method of entering the test mode (1)

While pressing the CD/D key, plug the power cord to the AC wall outlet. When the test mode is entered, the FL tube display and LED all lights.

#### 2) Method of entering the test mode (2)

- Set the test mode (1), then, when the following keys is pressed, test mode (2) is entered.
  - (TUNING) UP/DOWN
  - +10
  - BAND
  - CD DIRECT
  - 3-STEREO
  - PRO LOGIC

#### 3) Contents of test mode (2)

- (TUNING) UP : Electrically driven volume up.
- (TUNING) DOWN : Electrically driven volume down.
- +10: Electrically driven stop.
- BAND: Test tone ON/OFF
- CD DIRECT: Test tone mode
- CENTER LEVEL △ : (PRO LOGIC, 3 STEREO, DSP LOGIC)

#### 2) Frequency memorized for each PRESET channel when the memory is cleared (Test frequency)

DESTINATION	K, P, Y, M	T, E, Y, M
CH	BAND FREQUENCY	BAND FREQUENCY
1	FM 98.00	FM 98.00
2	FM 108.00	FM 108.00
3	AM 630	AM 630
4	AM 980	AM 990
5	AM 1440	AM 1440
6	AM 1610 (*1700)	AM 1602
7	FM 87.50	FM 87.50
8	FM 98.50	FM 98.50
9	AM 530	AM 531
10	FM 89.10	FM 89.10
11 ~ 20	FM 87.50	FM 87.50

\*1700kHz is set for WIDE only.

FM: MHz

AM: kHz

50ms (PRO LOGIC)

50ms (DSP, DSP LOGIC)

16 ms (PRO LOGIC)

1 ms (DSP, DSP LOGIC)

#### 3) The initial setting is performed in a following event:

- When backup memory data is destroyed when reset is applied to the microprocessor.
- When the power cord is plugged in to the AC wall outlet while pressing the TUNER key.

#### 4) Method of cancelling the test mode

When the power cord is plugged in to the AC wall outlet while pressing the TUNER key.

# KR-V8040/V8540

## CIRCUIT DESCRIPTION

## CIRCUIT DESCRIPTION

# KR-V8040/V8540

### 1.4 Conditions by destination

With destination set diode SW at "0": Effective only for K and P types.

1) Destination set SW
Destination diode SW
0
1 (D28)

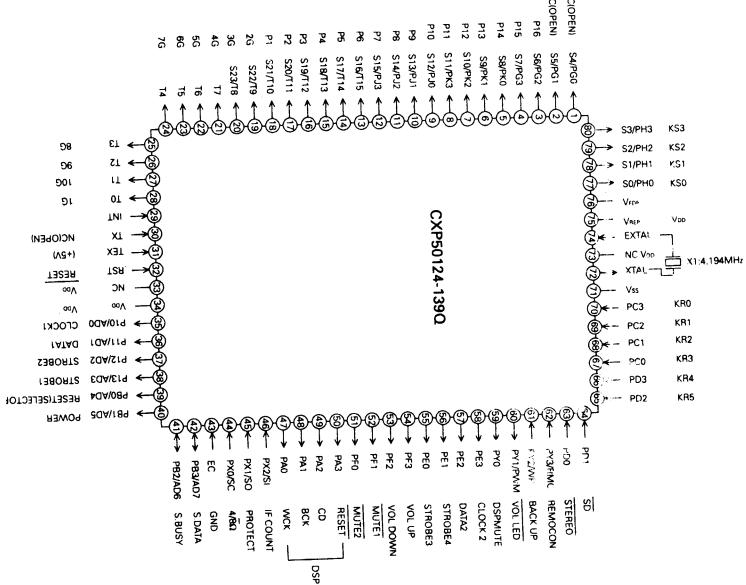
Specification set diode SW	AM reception frequency band
0	530 - 1610 kHz
1 (D28)	530 - 1700 kHz

### 3) Surround set SW

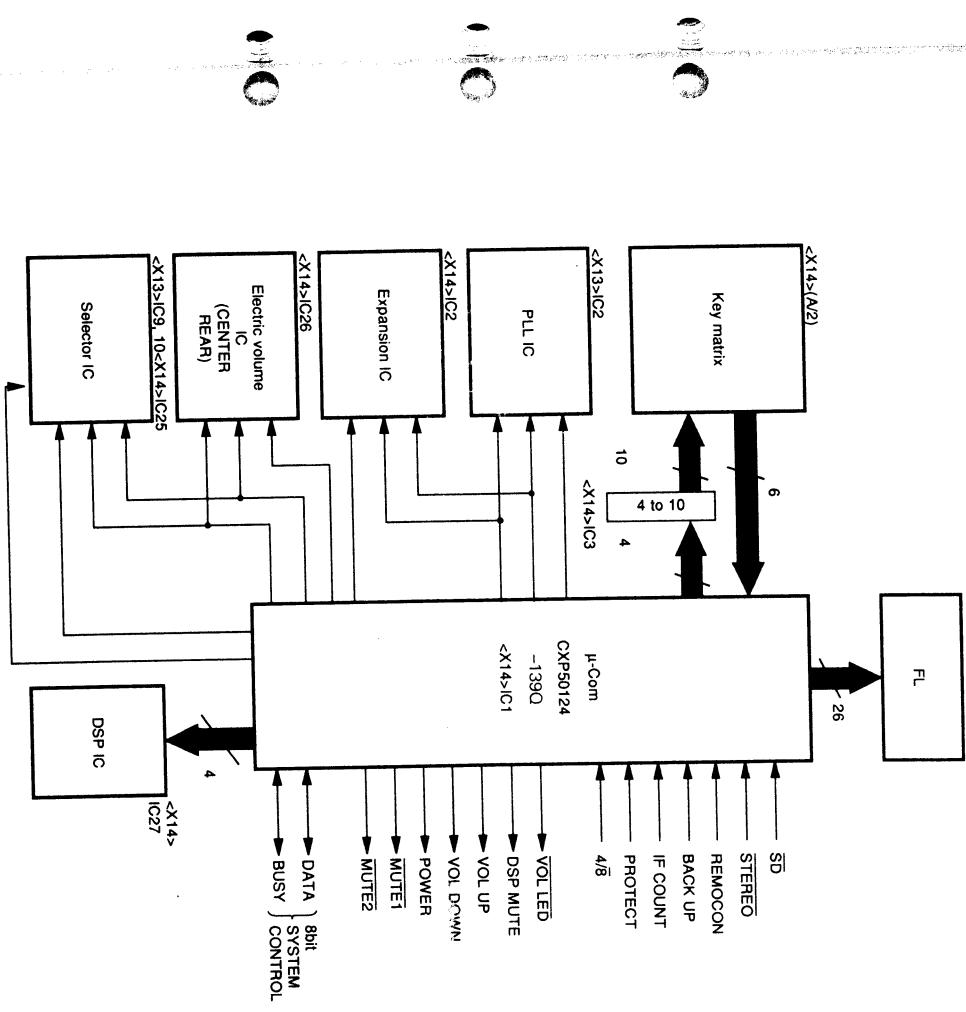
1: Setting diode
0

1 (D31)	Model name (Destination)	Surround operation
0	KR-V8040 KR-V8540	PRO LOGIC, 3-STEREO, DSP, DSP LOGIC

### 1.5 Pin connection



### 1.6 Block diagram around the microprocessor



# KR-V8040/V8540

## CIRCUIT DESCRIPTION

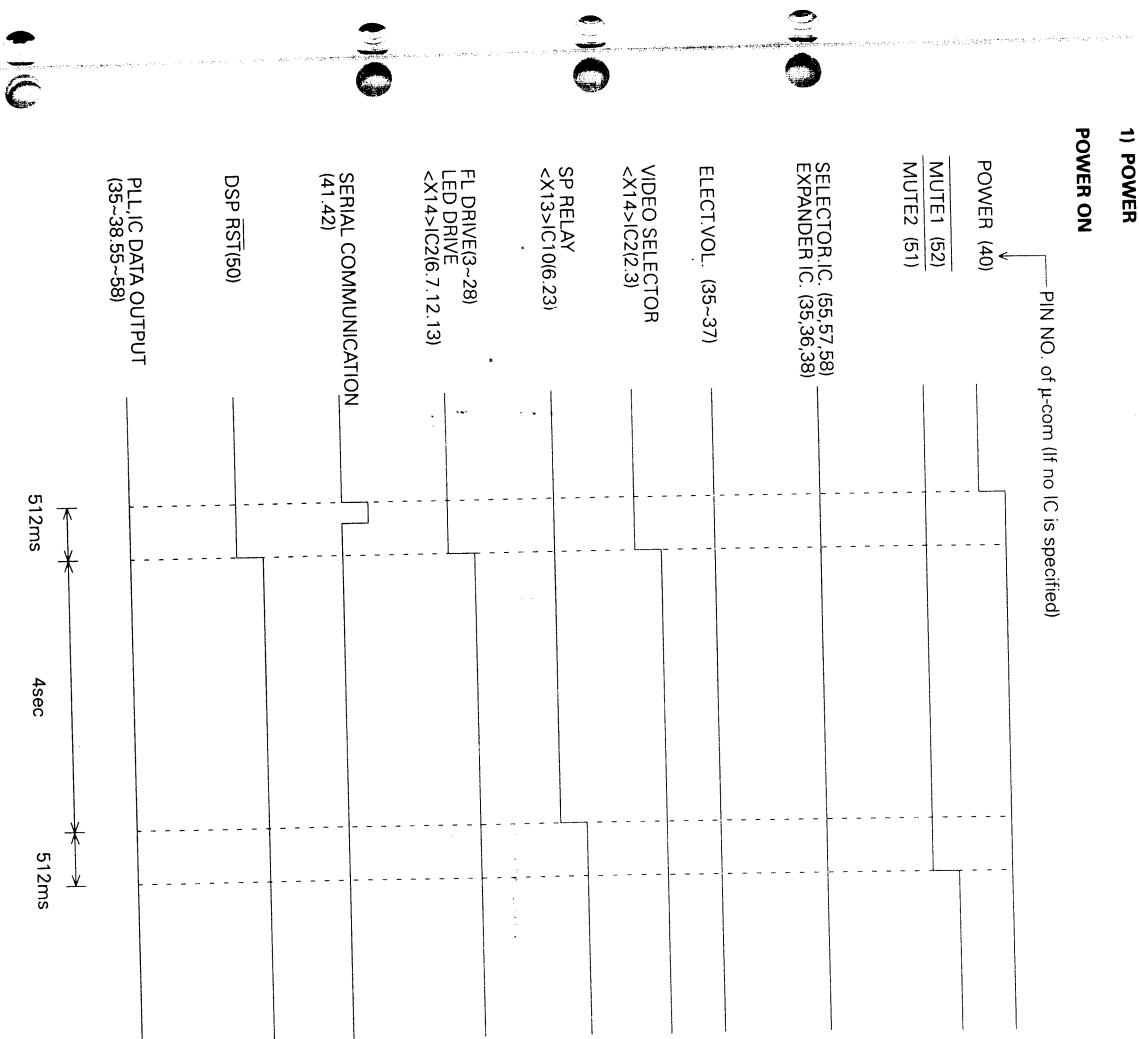
## CIRCUIT DESCRIPTION

KR-V8040/V8540

### 1.7 Pin description

Pin No.	I/O	Name	Function
1,2	—	No use	(OPEN)
3~18	0	SEGMENT 1~16	FL segment (P16~P1)
19~28	0	GRID 9~0	FL grid (2G~10G, 1G)
29~31	—	INT, TX, TEX	No use.
32	—	RESET	Reset pin (+5V)
33	—	No use	Power supply pin
34	—	VDD	Clock 1 (Electric volume IC, Expansion IC)
35	0	CLOCK 1	DATA 1 (Electric volume IC, Expansion IC)
36	0	DATA 1	DATA 1 (Electric volume IC)
37	0	STROBE 2	STROBE 2 (Electric volume IC)
38	0	STROBE 1	STROBE 1 (Expansion IC)
39	0	RESET (SELECTOR)	Expansion IC RESET
40	—	POWER	Power ON/OFF
41	I/O	S_BUSY	Serial BUSY
42	I/O	S_DATA	Serial DATA
43	—	$\bar{EC}$	(GND)
44	—	$4\bar{8}$	Speaker impedance (4Ω/8Ω) selection H:4Ω L:8Ω
45	—	PROTECT	Protection signal input
46	—	IF COUNT	IF COUNT input
47	0	WCK	DSP IC (YSS215-F) WCK
48	0	BCK	DSP IC (YSS215-F) BCK
49	0	CD	DSP IC (YSS215-F) CD
50	0	RESET	DSP IC (YSS215-F) RESET
51	0	MUTE2	MUTE2
52	0	MUTE1	MUTE1
53	0	VOL DOWN	Electrically driven volume control
54	0	VOL UP	Electrically driven volume control
55	0	STROBE3	STROBE3 (Selector IC)
56	0	STROBE4	STROBE4 (PLL IC)
57	0	DATA2	DATA2 (PLL IC, Selector IC)
58	0	CLOCK2	CLOCK2 (PLL IC, Selector IC)
59	0	DSP MUTE	For DSP mute
60	0	VOL LED	Volume LED
61	—	BACKUP	Backup input pin
62	—	REMOCON	Remote control input pin
63	—	STEREO	Stereo detection signal input
64	—	SD	Tuning detection signal input
65~70	—	KR5~0	Key return 5~0
71	—	Vss	GND
72	—	XTEL	System clock oscillation pin
73	—	No use	(GND)
74	—	EXTAL	System clock oscillation pin
75	—	VREF	No use
76	—	VDDP	Power supply for fluorescent display drive pin
77~80	0	KSO-3	Key scan 0~3

### 1.8 Timing chart

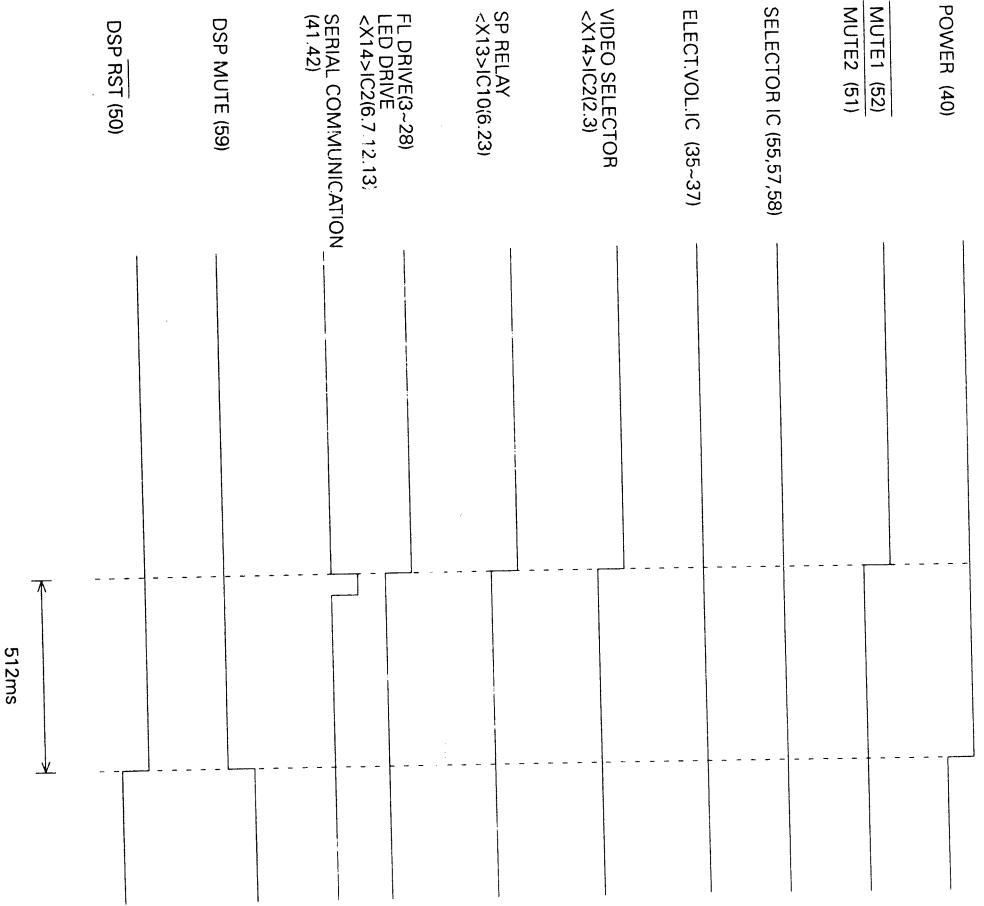


# KR-V8040/V8540

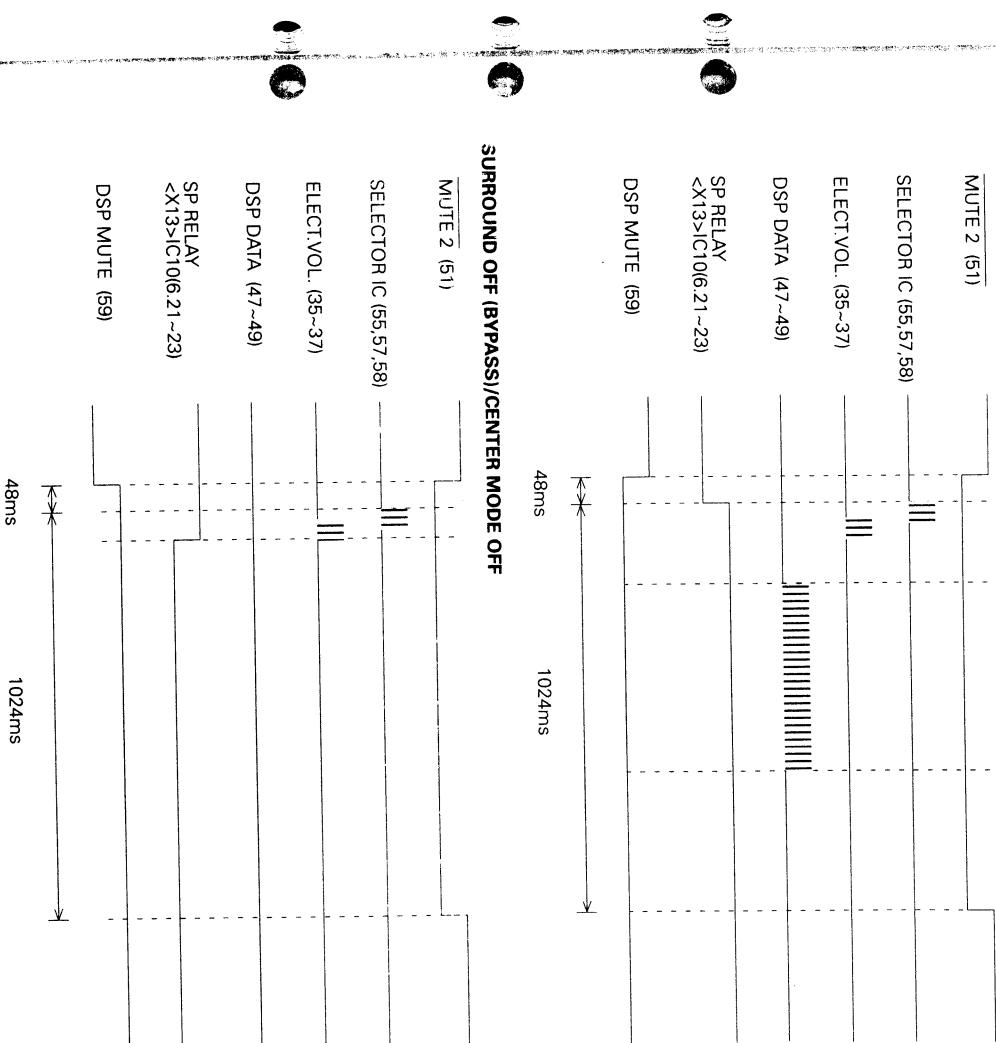
## CIRCUIT DESCRIPTION

## CIRCUIT DESCRIPTION

POWER OFF



2) SURROUND MODE/CENTER MODE change  
SURROUND ON/CENTER MODE ON



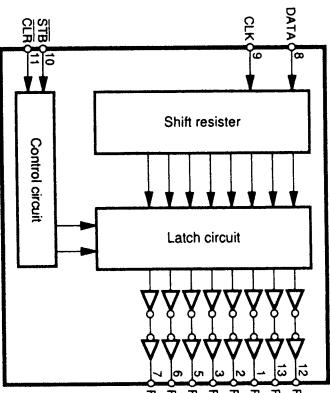
## CIRCUIT DESCRIPTION

## 2. 8bit Serial-Parallel IC: NJU3711D (X14:IC2)

## 2.1 Pin connection

P3	1	14	VDD
P4	2	13	P2
P5	3	12	P1
VSS	4	11	CLR
P6	5	10	STB
P7	6	9	CLK
P8	7	8	DATA

## 2.2 Block diagram



## 3. DSP IC: YSS215-F (X14:IC27)

## 3.1 Features

- High-precision signal processing with 32-bit internal operation word length.
- Analogue control of three front channels L-ch, C-ch, and R-ch.
- Contains the directional emphasis circuit by digital signal processing, noise sequencer, 7kHz low-pass filter, varied Dolby B type N.R. decoder (can be turned on and off).
- Built-in auto input balance (can be turned on and off).
- Noise sequence can be controlled by microprocessor.
- Dolby reference operate level: 300mV rms.
- High sound field processing with eight taps and a maximum delay of 370 ms for the S-ch and (L+R) signals in the Dolby Pro-Logic mode.
- Built-in sound field simulation surround function by digital delay.
- 256 pseudo SRAM interface for 16-bit linear external delay.
- Master clock: 11.2896 MHz; Sampling frequency: 44.1 kHz
- Parameter control with the microprocessor interface.

## 3.2 Pin connection

CD	1	64	63	62	61	60	59	58	57	56	55	54	53	52	51	A11
TSBWD	2														50	A9
TIO	3														49	A8
AVDD	4														48	A13
R:	5														47	A12
F:	6														46	A14
CHL	7														45	A12
UNS	8														44	A7
RNS	9														43	A6
CHR	10														42	A5
FR	11														41	DENO
RR	12														40	DENO
CV	13														39	A4
AGND	14														38	A3
AGND	15														37	A2
VREF	16														36	A1
LINM	17														35	A0
RINM	18														34	D0
VOLM	19														33	D1
	20	21	22	23	24	25	26	27	28	29	30	31	32			

## 2.3 Pin description

Pin No.	Name	Function	Pin No.	Name	Function
1	P3	Parallel conversion data output	8	DATA	Serial data input
2	P4		9	CLK	Clock signal input
3	P5		10	STB	Strobe signal input
4	Vss		11	CLR	CLR signal input
5	P6	Parallel conversion data output	12	P1	
6	P7		13	P2	
7	P8		14	VDD	Power supply (4.5~5.5V)

## 2.4 Function description

① Reset  
When you set the CLR pin to low, all latches are reset, and all parallel outputs go low. Normally, you should set the CLR pin to high.

② Data transfer  
When you set the STB pin to high, the serial data input to the DATA pin is loaded into the shift register in synchronization with a rising edge of the clock applied to the CLK pin.

PIN No.	⑨	⑩	⑪	Description
CLK	STB	CLR		Reset all the contents of the latch circuit (the contents of the shift register remain unchanged) and make all parallel outputs low.
X	X	L		Load serial data at the DATA pin to the shift register. The contents of the latch circuit are unchanged.
L	H	H		Transfer the contents of the shift register to the latch circuit and output the contents of the latch circuit from parallel output.
				If CLK is input when STB is low and CLR is high, the contents of the shift register are shifted and the contents of the latch circuit are changed.

Note: X: Don't care

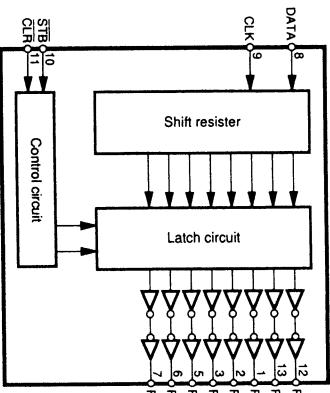
## CIRCUIT DESCRIPTION

## 2. 8bit Serial-Parallel IC: NJU3711D (X14:IC2)

## 2.1 Pin connection

P3	1	14	VDD
P4	2	13	P2
P5	3	12	P1
VSS	4	11	CLR
P6	5	10	STB
P7	6	9	CLK
P8	7	8	DATA

## 2.2 Block diagram



## 2.3 Pin connection

CD	1	64	63	62	61	60	59	58	57	56	55	54	53	52	51	A11
TSBWD	2														50	A9
TIO	3														49	A8
AVDD	4														48	A13
R:	5														47	A12
F:	6														46	A14
CHL	7														45	A12
UNS	8														44	A7
RNS	9														43	A6
CHR	10														42	A5
FR	11														41	DENO
RR	12														40	DENO
CV	13														39	A4
AGND	14														38	A3
AGND	15														37	A2
VREF	16														36	A1
LINM	17														35	A0
RINM	18														34	D0
VOLM	19														33	D1
	20	21	22	23	24	25	26	27	28	29	30	31	32			

## 2.4 Function description

① Reset  
When you set the CLR pin to low, all latches are reset, and all parallel outputs go low. Normally, you should set the CLR pin to high.

② Data transfer  
When you set the STB pin to high, the serial data input to the DATA pin is loaded into the shift register in synchronization with a rising edge of the clock applied to the CLK pin.

PIN No.	⑨	⑩	⑪	Description
CLK	STB	CLR		Reset all the contents of the latch circuit (the contents of the shift register remain unchanged) and make all parallel outputs low.
X	X	L		Load serial data at the DATA pin to the shift register. The contents of the latch circuit are unchanged.
L	H	H		Transfer the contents of the shift register to the latch circuit and output the contents of the latch circuit from parallel output.
				If CLK is input when STB is low and CLR is high, the contents of the shift register are shifted and the contents of the latch circuit are changed.

Note: X: Don't care

## 3. DSP IC: YSS215-F (X14:IC27)

## 3.1 Features

CD	1	64	63	62	61	60	59	58	57	56	55	54	53	52	51	A11
TSBWD	2														50	A9
TIO	3														49	A8
AVDD	4														48	A13
R:	5														47	A12
F:	6														46	A14
CHL	7														45	A12
UNS	8														44	A7
RNS	9														43	A6
CHR	10														42	A5
FR	11														41	DENO
RR	12														40	DENO
CV	13														39	A4
AGND	14														38	A3
AGND	15														37	A2
VREF	16														36	A1
VINM	17														35	A0
RINM	18														34	D0
VOLM	19														33	D1
	20	21	22	23	24	25	26	27	28	29	30	31	32			

## 3.2 Pin connection

① Reset  
When you set the CLR pin to low, all latches are reset, and all parallel outputs go low. Normally, you should set the CLR pin to high.

② Data transfer  
When you set the STB pin to high, the serial data input to the DATA pin is loaded into the shift register in synchronization with a rising edge of the clock applied to the CLK pin.

PIN No.	⑨	⑩	⑪	Description
CLK	STB	CLR		Reset all the contents of the latch circuit (the contents of the shift register remain unchanged) and make all parallel outputs low.
X	X	L		Load serial data at the DATA pin to the shift register. The contents of the latch circuit are unchanged.
L	H	H		Transfer the contents of the shift register to the latch circuit and output the contents of the latch circuit from parallel output.
				If CLK is input when STB is low and CLR is high, the contents of the shift register are shifted and the contents of the latch circuit are changed.

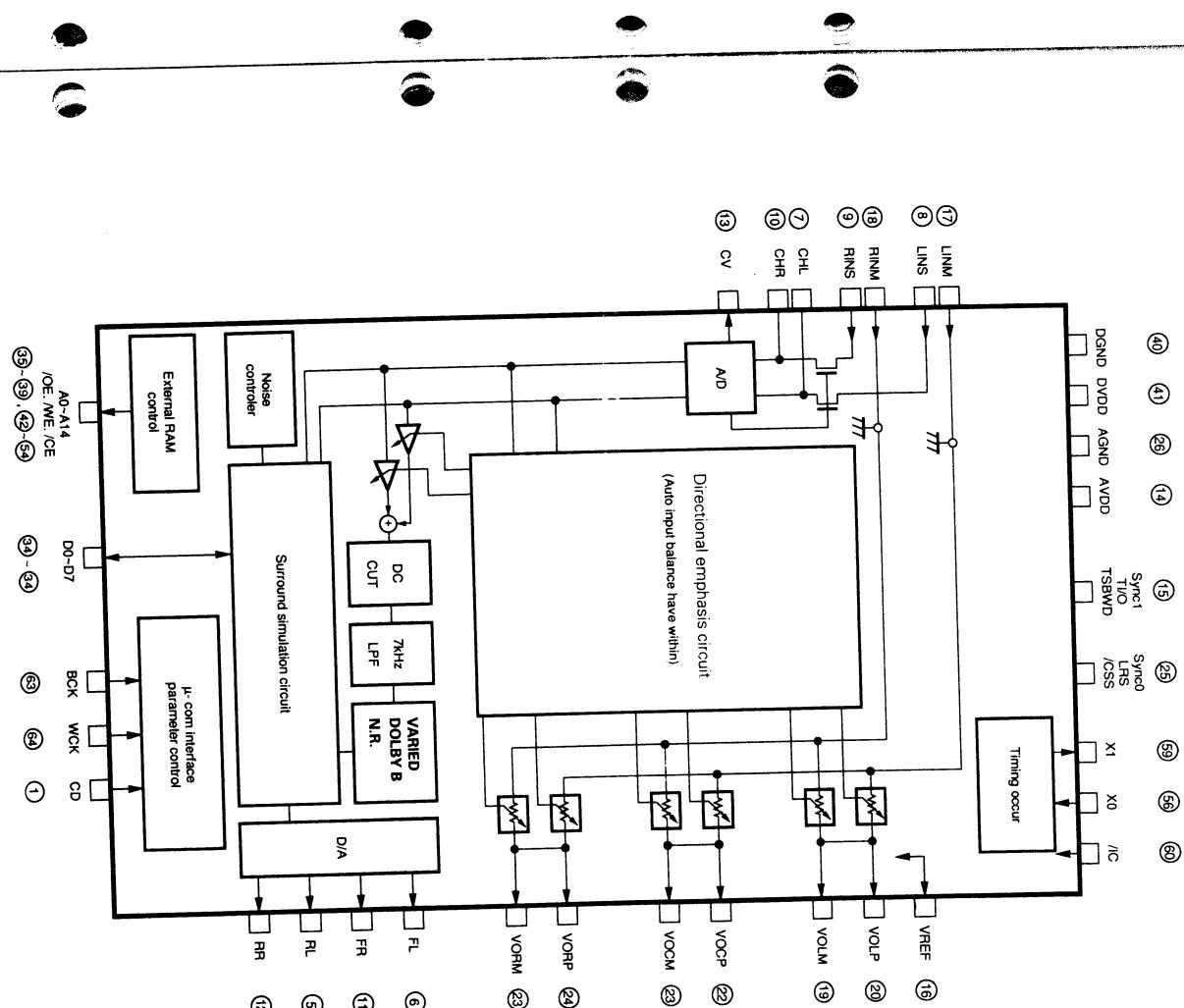
Note: X: Don't care

## CIRCUIT DESCRIPTION

### 3.3 Pin functions

Pin No.	I/O	Name	Function
1	It	CD	Serial data of parameter data input
2	Ic	TSBWD	LSI test Pin. Normally, connect the DVDD
3	Ic	TVO	+5V power supply (analog-to-digital, digital-to-analog systems)
4	A-	AVDD	RL channel digital-to-analog output DSP output
5	AO	RL	FL channel digital-to-analog output DSP output
6	AO	FL	LNS input, sample/hold capacitor pin
7	A-	CHL	L channel analog-to-digital input
8	AI	LNS	R channel analog-to-digital input
9	AI	RNS	RHS input, sample/hold capacitor pin
10	A-	CHR	FR channel digital-to-analog output DSP output
11	AO	FR	RR channel digital-to-analog output DSP output
12	AO	RR	Analog-to-digital, multiplying DAC center voltage
13	CV	AGND	Ground (analog-to-digital, digital-to-analog systems)
14	A-	AGND	Multiplying DAC reference voltage input
15	A-	VREF	L channel, multiplying DAC input
16	AI	LINM	R channel, multiplying DAC input
17	AI	RINM	L channel op-amp (+)
18	AI	VOLM	L channel op-amp (-)
19	AO	VOLM	C channel op-amp (-)
20	AO	VOLP	DSP PRO LOGIC output
21	AO	VOCM	C channel op-amp (+)
22	AO	VOCP	R channel op-amp (+)
23	VORM	VORP	R channel op-amp (+)
24	AO	VORP	+5V power supply (multiplying DAC system)
25	A-	AVDD	+5V power supply (Digital system)
26	—	DVDD	External delay RAM date pin
27~34	I/O	D7~D0	External delay RAM address pin
35~39	—	A0~A4	External delay RAM address pin
40	—	DGND	Ground (digital system)
41	—	DGND	External delay RAM address pin
42~46	—	A5~A7 A12, A14	External delay RAM write enable pin
47	—	ME	External delay RAM address pin
48~51	—	A13, A8, A9, A11	External delay RAM output enable pin
52	—	JOE	External delay RAM address pin
53	—	A10	External delay RAM address pin
54	—	I/CE	External delay RAM chip enable pin
55	—	XO	Crystal oscillator [1.2896MHz]
56	—	XI	Test pin for system synchronism. Normally, connect the DVDD
57	It	Synd	+5V power supply (digital system)
58	—	DVDD	Test pin for system synchronism
59	O	SyndO	Initial clear pin
60	Ics	/IC	Auto input balance pin
61	O	LRS	Auto input balance pin
62	O	/CSS	Bit clock of parameter data input
63	Its	BCK	Word clock of parameter data input
64	Its	WCK	

### 3.4 Block diagram



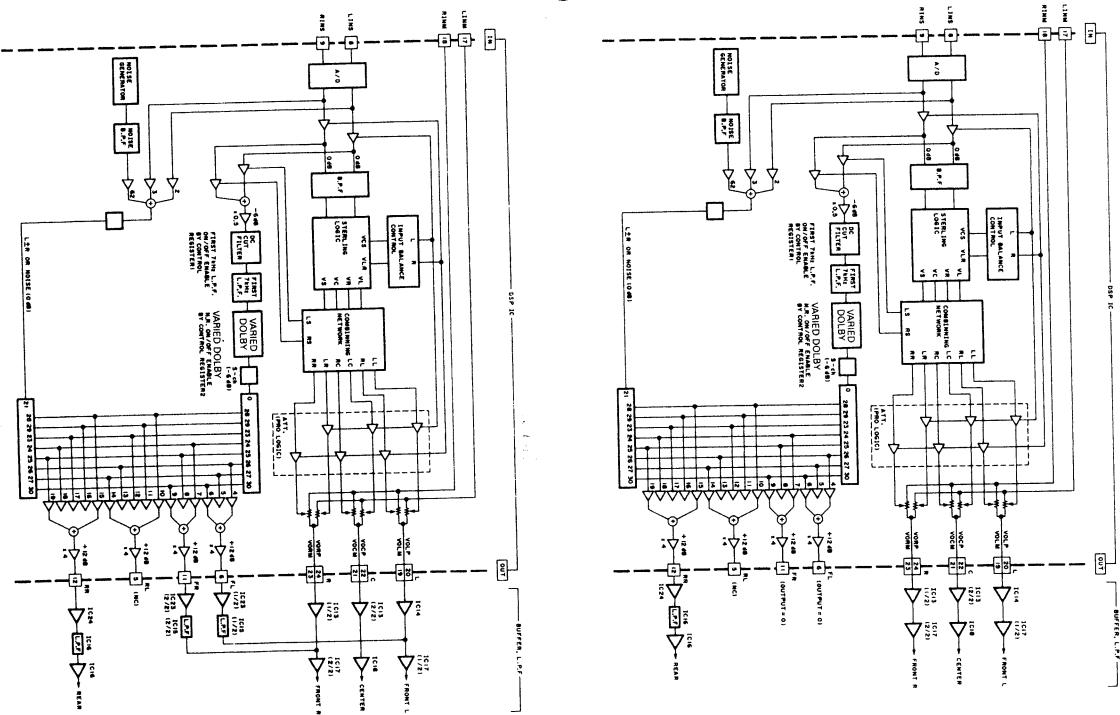
Note:  
I: Input pin  
C: CMOS level

t: |||Level  
A: Analog pin

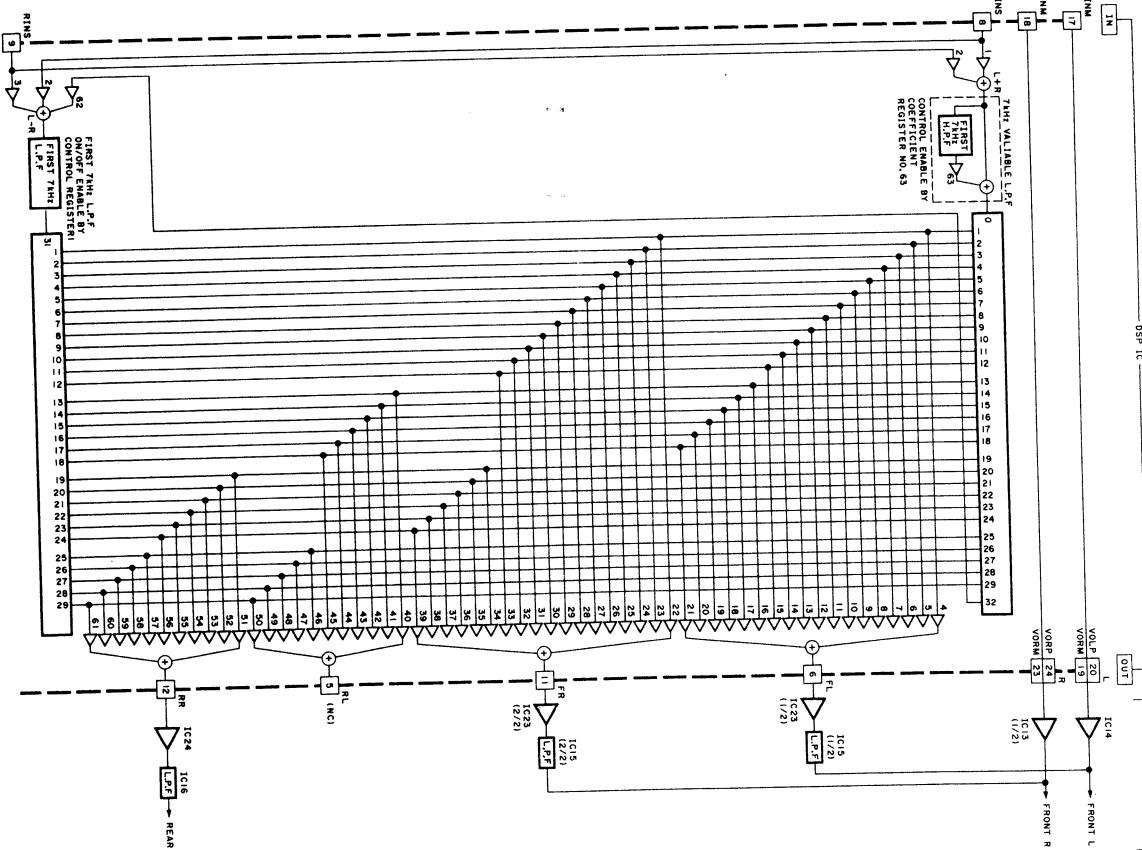
# KR-V8040/V8540

## CIRCUIT DESCRIPTION

(PRO LOGIC)



(D.S.P.)



## CIRCUIT DESCRIPTION

# KR-V8040/V8540

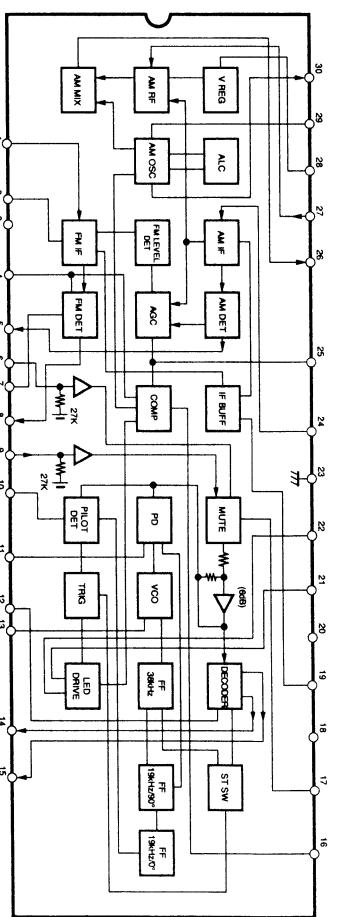
## CIRCUIT DESCRIPTION

## CIRCUIT DESCRIPTION

## 4 S-RAM: HM65256BLF-10(X:14:IC28)

## 5 FM, AM, MPX system IC: LA1851N (X13:IC1)

## 5.1 Block diagram



## 5.2 Pin description

Pin No.	Function	Remark
1	FM IF input	Input impedance: 33kΩ
2	FM IF bias	
3	Vcc	
4	AM AFC output	When FM AFC is de-activated, the ST LED goes off and the forced monaural mode is set.
5	AM demodulation output	MPX section, AM demodulation input.
6	MPX AM DET input	Input impedance: 27kΩ
7	FM demodulation output	Output impedance: 5kΩ
8	MPX FM DET input	MPX section, FM demodulation input.
9	MPX section, FM demodulation input.	Input impedance
10	MPX Pilot synchronization detection filter	MPX VCO stops by shorting the voltage at pin 10 to the VCC line at pin 3. A 3kΩ current limiting resistor is required.
11	MPX PLL loop filter	
12	MPX separation control	
13	MPX VCO	Ceramic oscillator
14	MPX L ch output	
15	MPX R ch output	
16	AM SD ADJ	
17	MPX AF muting drive	$V_{H1} \geq 1.5V$ : Mute ON $V_{H1} < 1.5V$ : Mute OFF
18	AM/FM change	$V_{H1} \geq 1.5V$ : FM $V_{H1} < 1.5V$ : AM
19	AM/FM IF count output SW combined use	$V_{H1} \geq 1.5V$ : CNT ON $V_{H1} < 1.5V$ : CNT OFF
20	TRUST LED	$V_{H1} \geq 1.5V$ : LED forced on (Forced monaural mode) $V_{H1} < 1.5V$ : Normal
21	AM/FM TILED	
22	MPX ST LED	
23	AM/FM MPX GND	
24	AM IF input	Input impedance: 2kΩ
25	AM AGC output, FM S meter	
26	output	
27	AM RF input	
28	V Reg	$V_{Reg} = 2.3V$
29	AM OSC	
30	AM SD ADJ combined use	

## 4.1 Pin connection

A 14	1	28	Vcc
A 12	2	27	WE
A 7	3	26	A 13
A 6	4	25	A 8
A 5	5	24	A 9
A 4	6	23	A 11
A 3	7	22	OE
A 2	8	21	A 10
A 1	9	20	CE
A 0	10	19	I/O7
1/00	11	18	I/O6
1/01	12	17	I/O5
I/02	13	16	I/O4
Vss	14	15	I/O3

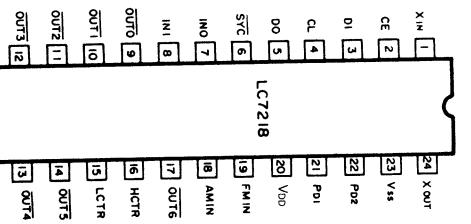
## 4.2 Function table

$\bar{CE}$	$\bar{OE}$	$\bar{WE}$	I/O pin	Mode
L	L	H	Low Z	Read
L	X	L	High Z	Write
L	H	H	High Z	—
H	L	X	High Z	Refresh
H	H	X	High Z	Standby

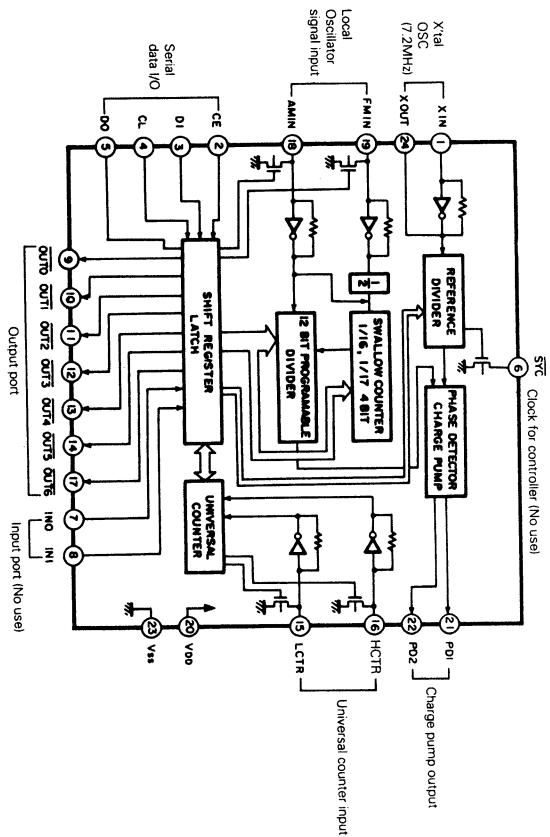
## 6 PLL IC:LC7218 (X13:IC2)

## CIRCUIT DESCRIPTION

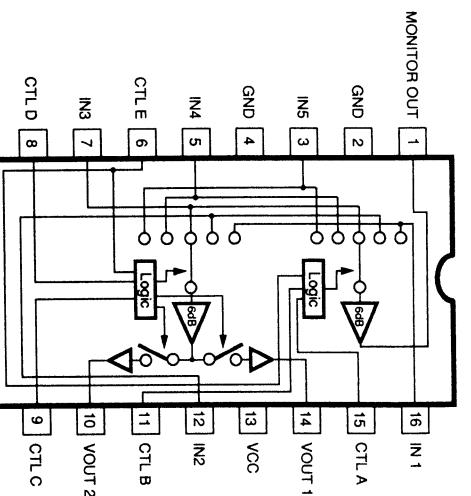
## 6.1 Pin connection



## 6.2 Block diagram



## 7.1 Block diagram



## 7.2 Function table

A	B	C	D	E	MONITOR OUT	VOUT1	VOUT2
L	L	L	L	*	IN1	—	IN1
H	L	H	L	*	IN2	—	—
L	H	L	H	*	IN2	IN3	IN3
H	H	H	H	L	IN3	IN4	IN4
H	H	H	H	H	IN4	IN4	IN4
H	H	H	H	H	IN5	IN5	IN5

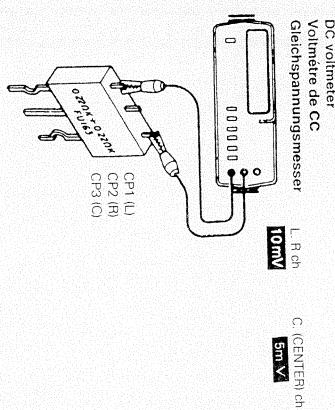
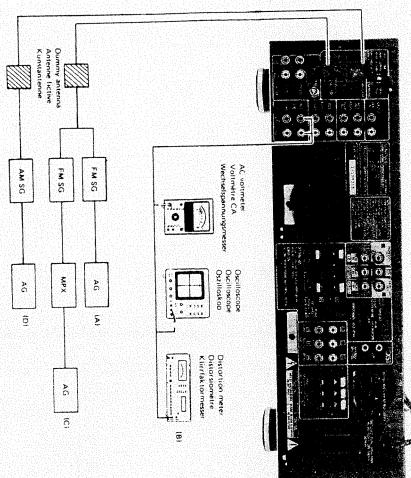
H: High    L: Low    \*: High or Low

KR-V8040/V854C  
*H*

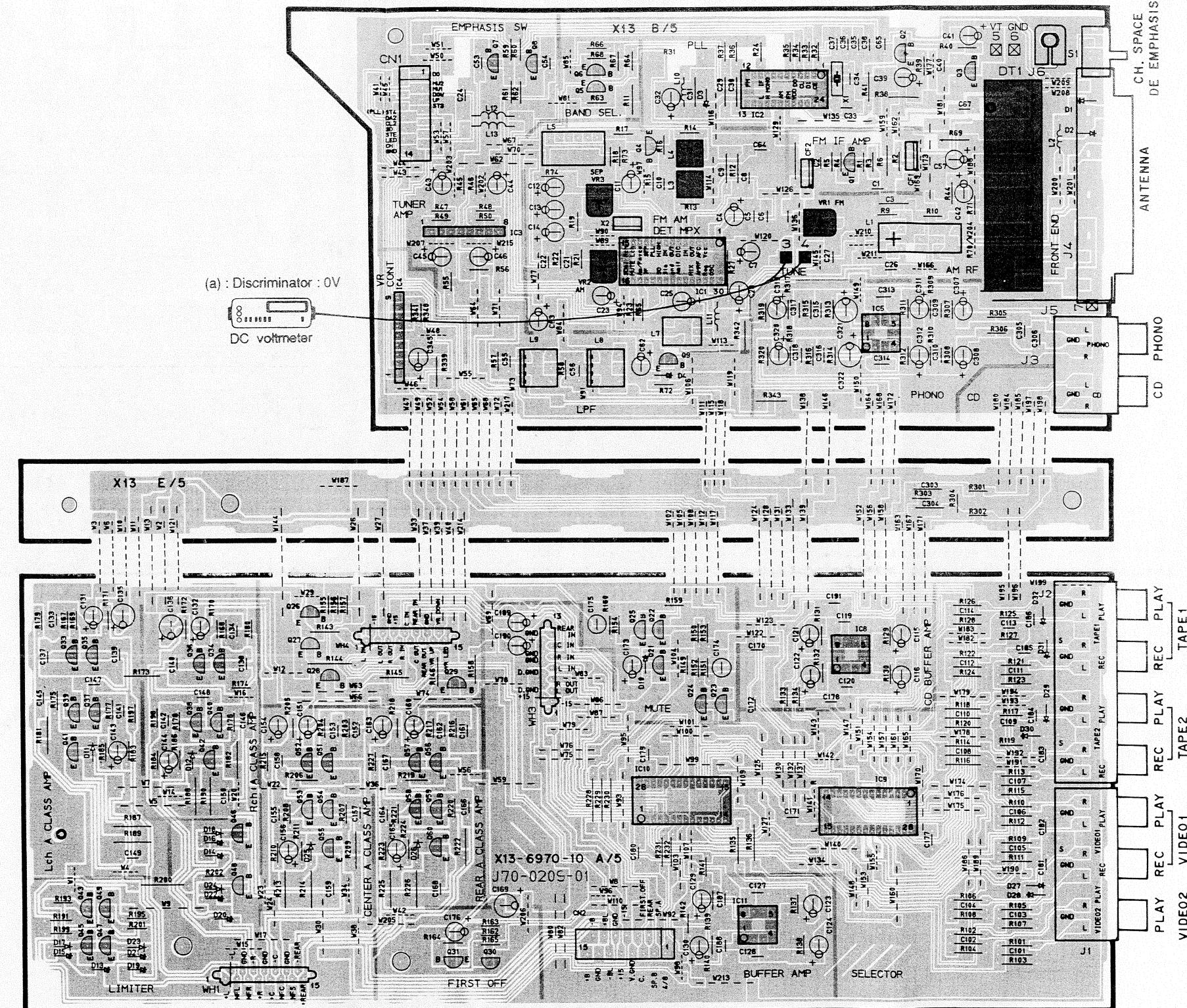
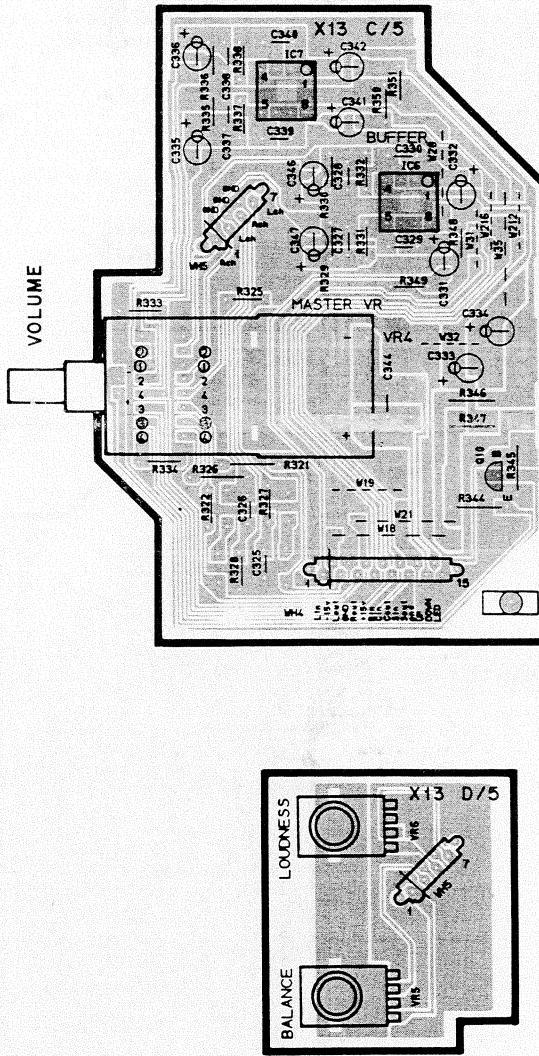
## ADJUSTMENT

AM Section: If alignment point is  $\text{---}$ , confirm the value. If  $\text{---}$  and  $\text{---}$  are the front and back

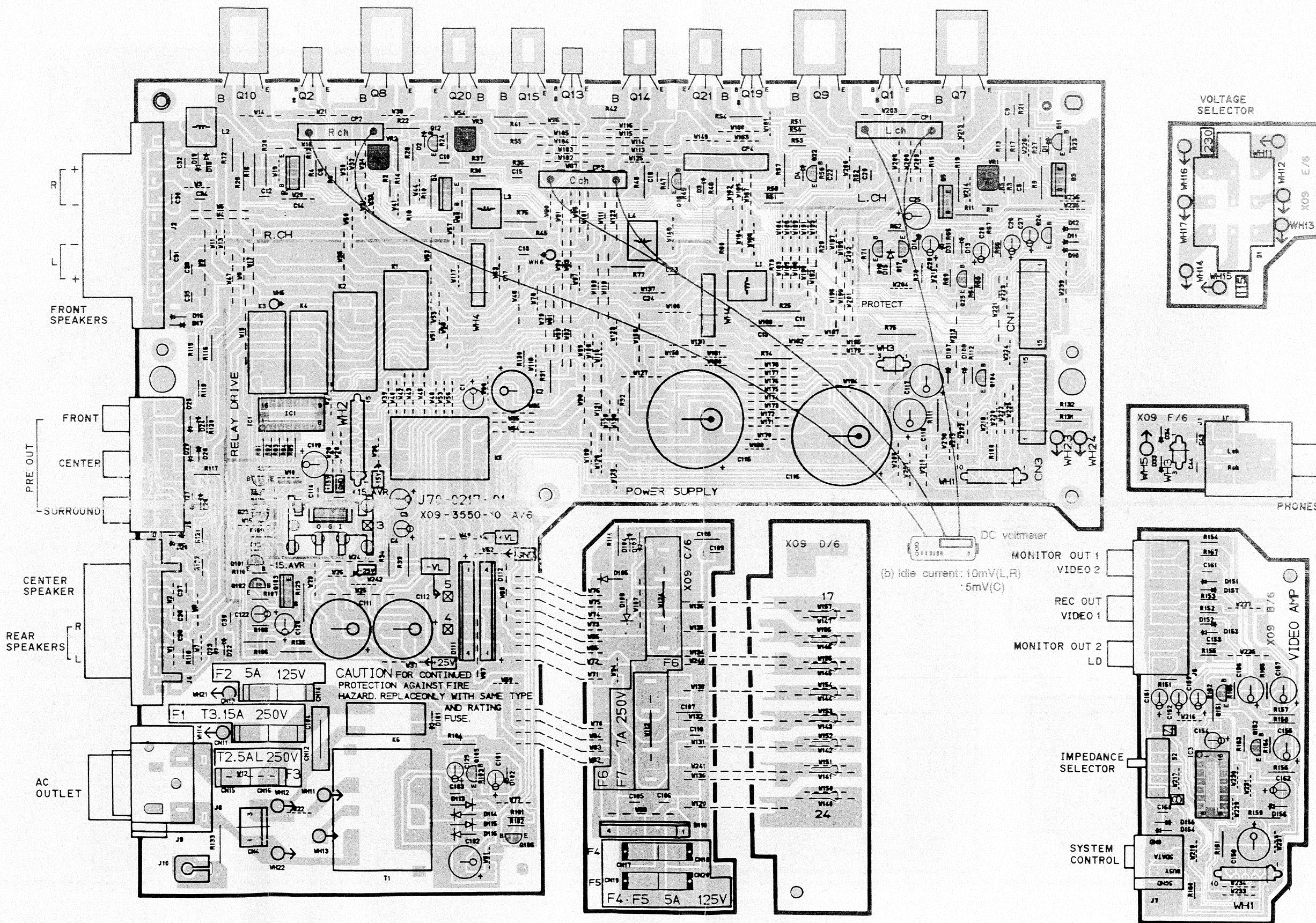
No.	ITEM	SETTINGS	OUTPUT	TUNER	ALIGNMENT	ALIGN FOR	FIG.
F.M.	5 SECTION	SETTINGS	SELECTOR FM	SWITCHES	SWITCHES	SWITCHES	11
1	DISTORTION	(A) 98.0MHz 1kHz-57kHz dev 60dB(ANT input) (C)	Connect a DC voltmeter between TP3 and TA4 (X13-)	AUTO or MONO 98.0MHz	L3 (X13-)	0V	(a)
2	DISTORTION	1kHz-98.2MHz dev (MONO, F.E. type only)	98.0MHz	98.0MHz	L4 (X13-)	Minimum distortion	
3	DISTORTION	1kHz-154.2MHz dev (STEREO)	98.0MHz Selector L or R 60dB(ANT input)	98.0MHz	IFT (X12-)	Minimum distortion (L or R)	
4	SEPARATION	98.0MHz Stereo signal 60dB(ANT input) (A)	98.0MHz (B)	AUTO 98.0MHz	WE3 (X13-)	Minimum crosstalk	
5	TUNING LEVEL	98.0MHz 0dev (B)	AUTO or MONO 98.0MHz	WE1 (X13-)	Adjust WE and stop at the point where E/C(MONO) goes on.		
A.M. SECTION		SELECTOR AM					
(1)	TUNING LEVEL	1000(599)kHz 20dB(ANT input)	(D)	—	WE2 (X13-)	Adjust WE and stop at the point where E/C(MONO) goes on.	
AUDIO SECTION		SELECTOR AM	(E)				
(1)	DC VOLTAGE	—	Connect a DC voltmeter across C1(1), C2(2), C3(3) (A/B)	Volume 0	WE1(L) WE2(C) WE3(C) (A/B)	WE1(L, R) 5mV(C)	(b)



# PC BOARD (Component side view)



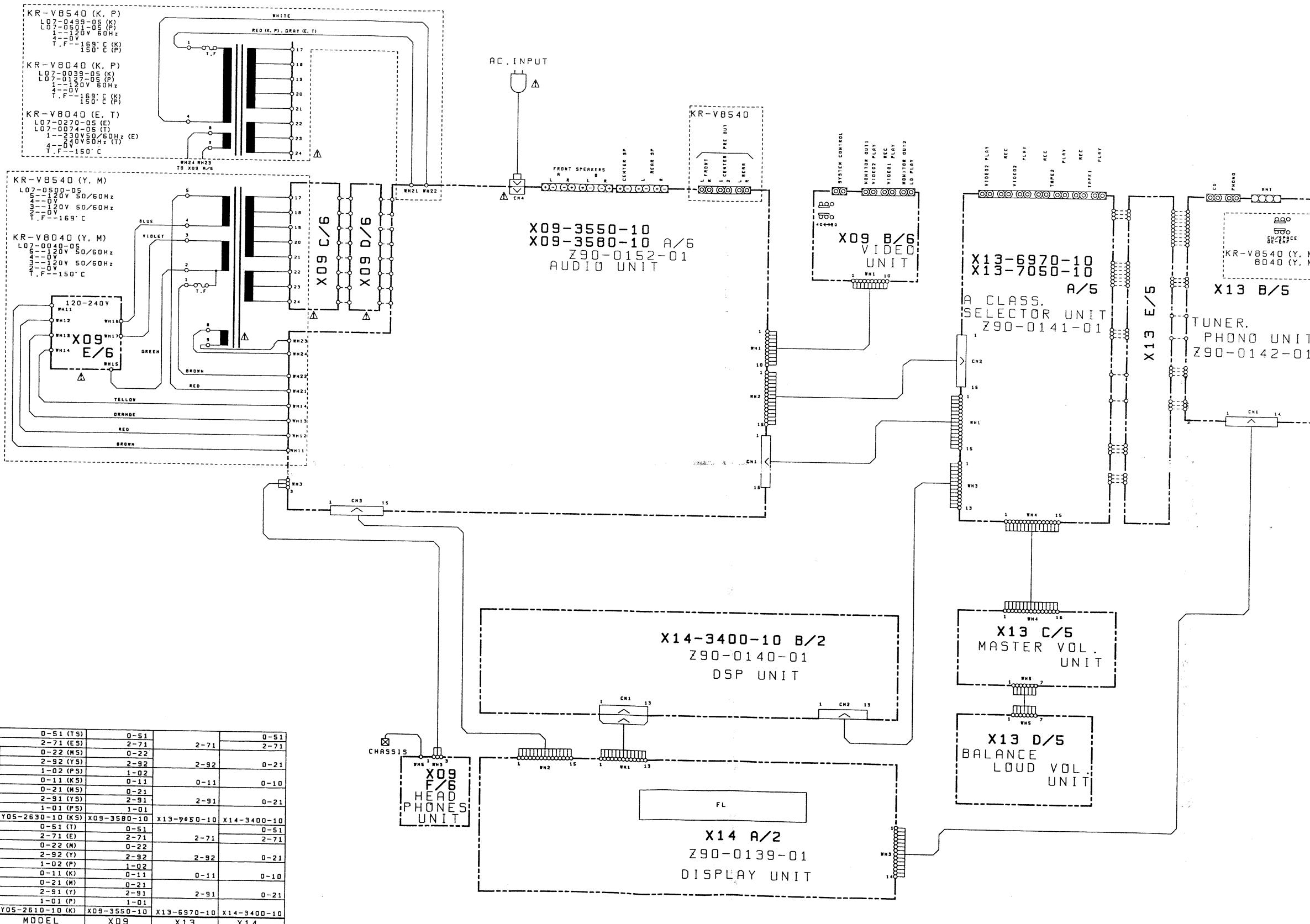
## PC BOARD (Component side view)



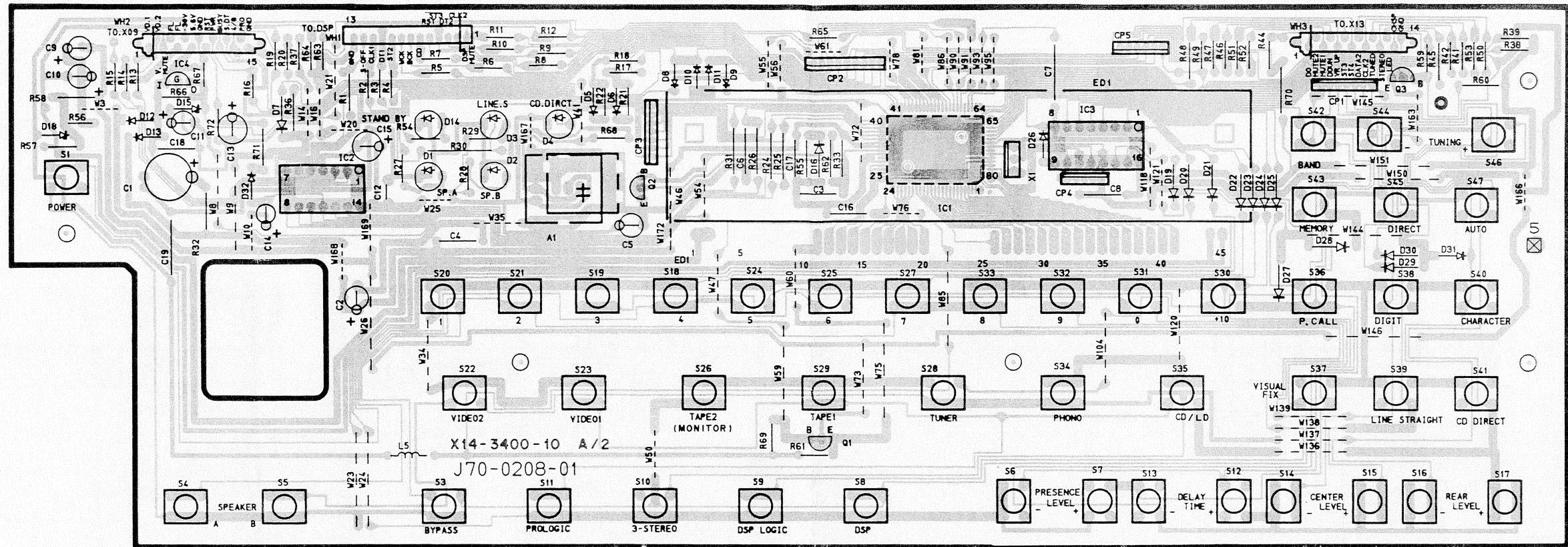
# KR-V8040/V8540

## KR-V8040/V8540

### WIRING DIAGRAM



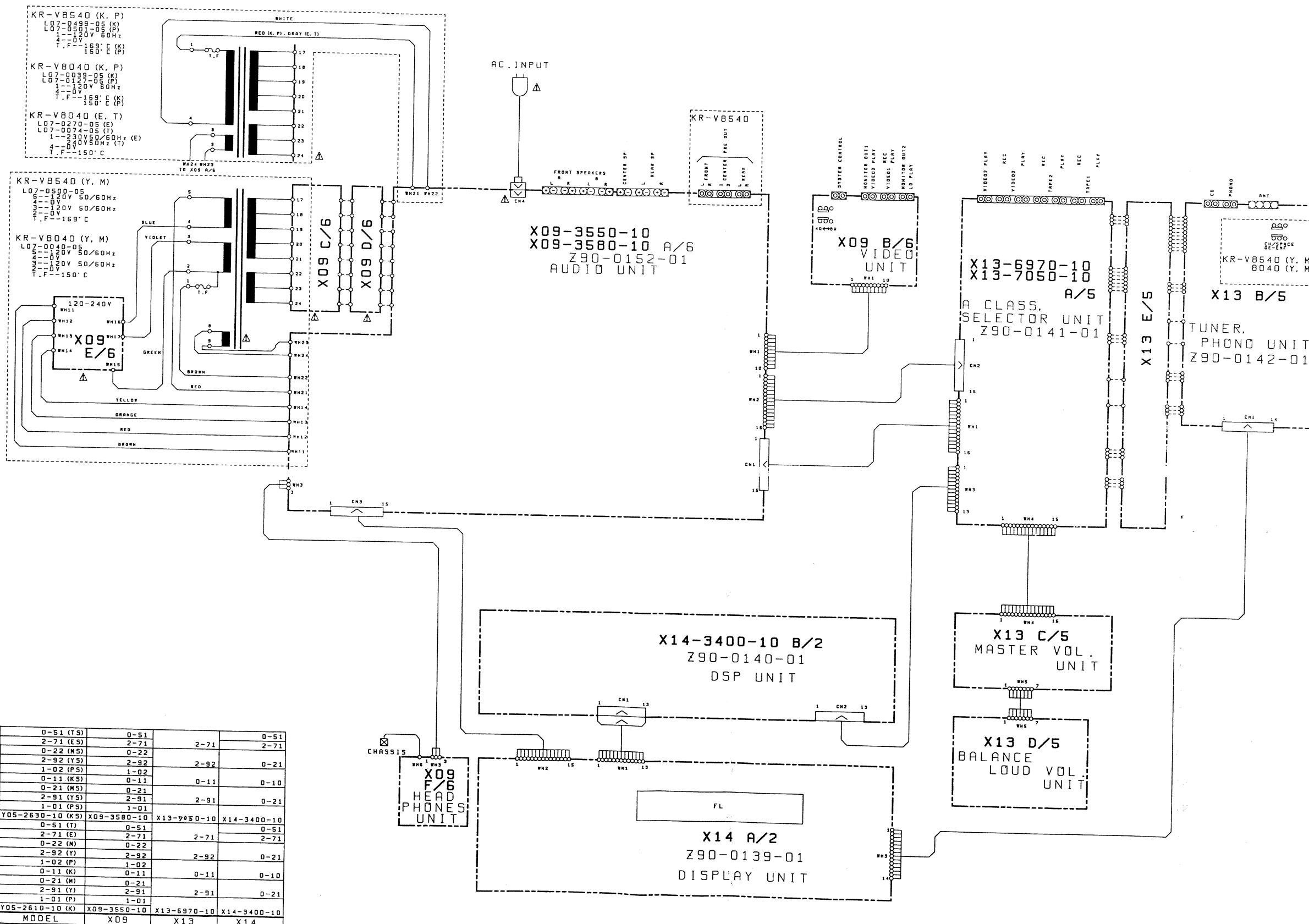
# PC BOARD (Component side view)

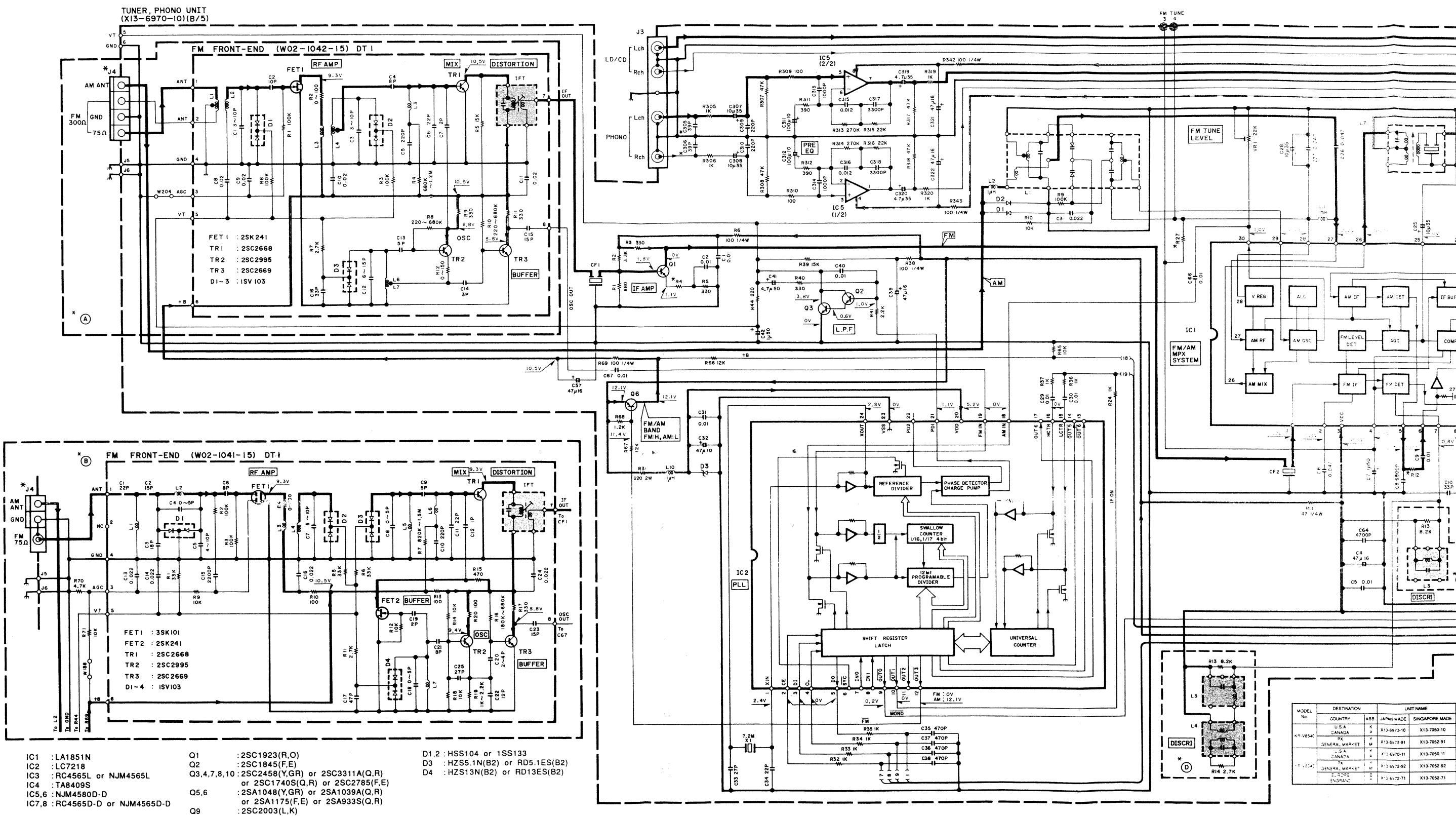


# KR-V8040/V8540

## KR-V8040/V8540

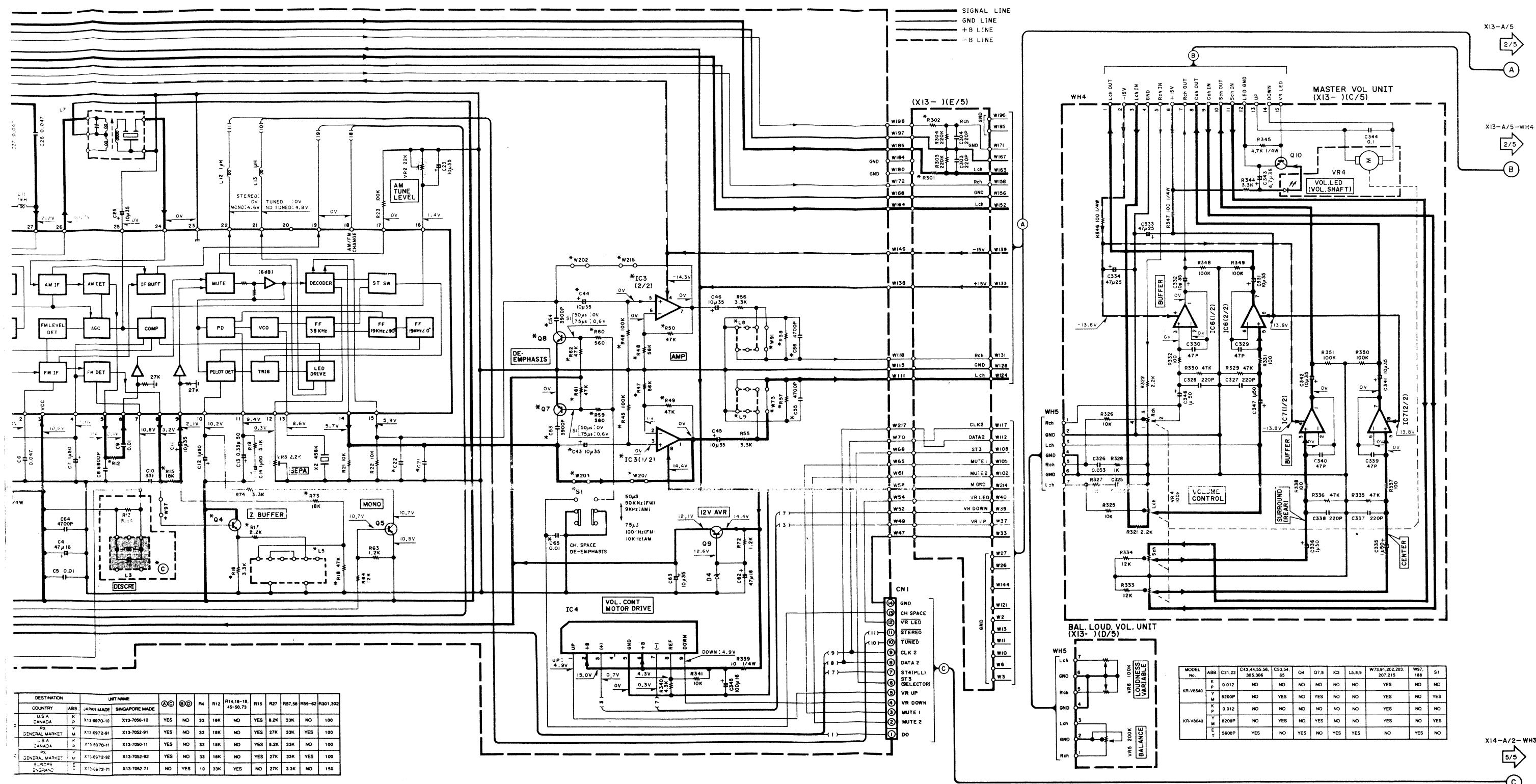
### WIRING DIAGRAM





DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

MODEL No	DESTINATION	UNIT NAME
KR-V584C	U.S.A	X13-6970-10 X13-7050-10
	CANADA	X
	P.R.	X13-6970-21 X13-7052-91
	GENERAL MARKET	X
	U.S.A	X13-6970-11 X13-7050-11
	CANADA	X
	P.R.	X13-6972-92 X13-7052-92
	GENERAL MARKET	X
	EUROPE	X13-6972-71 X13-7052-71
	ENGLISH	X

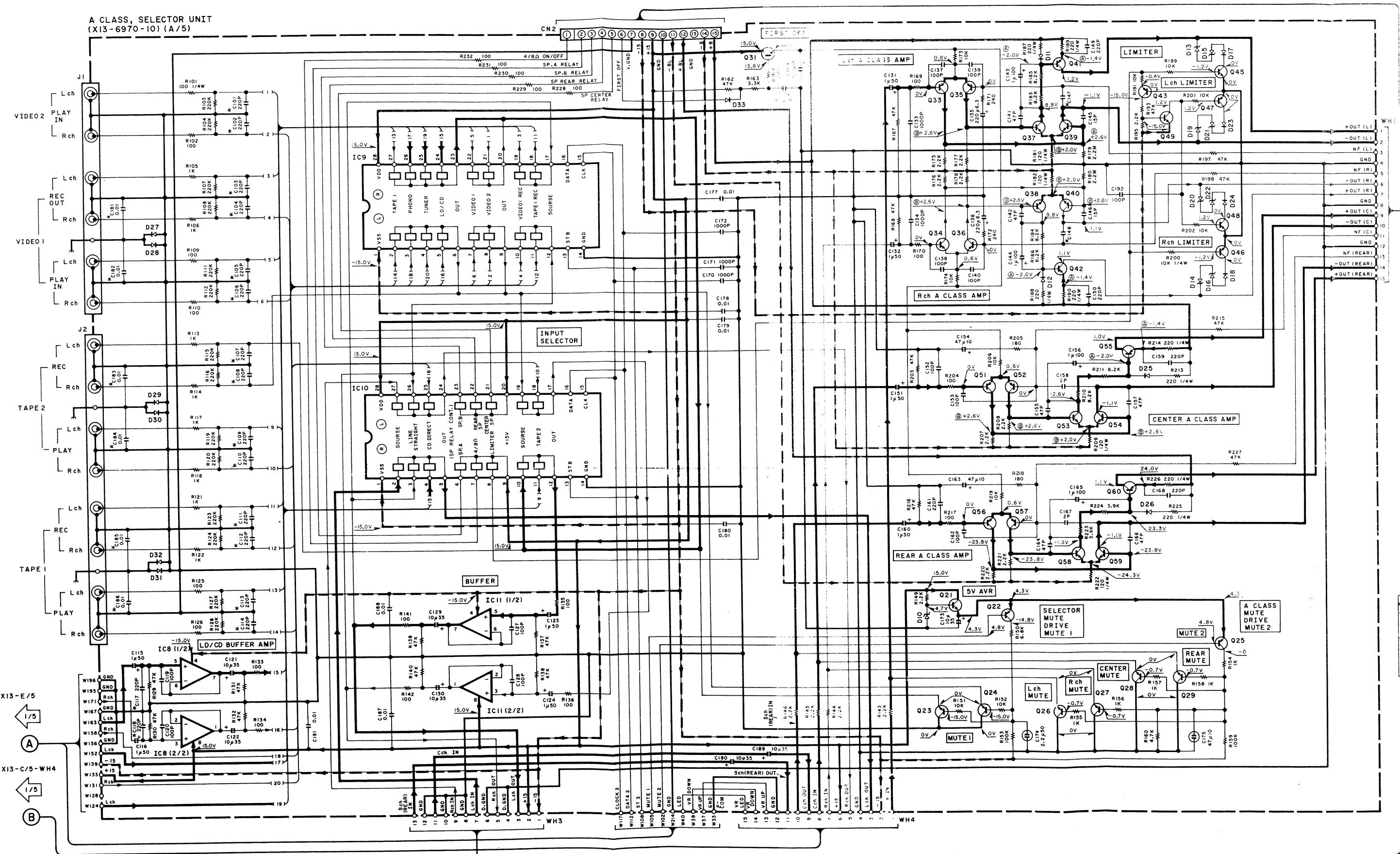


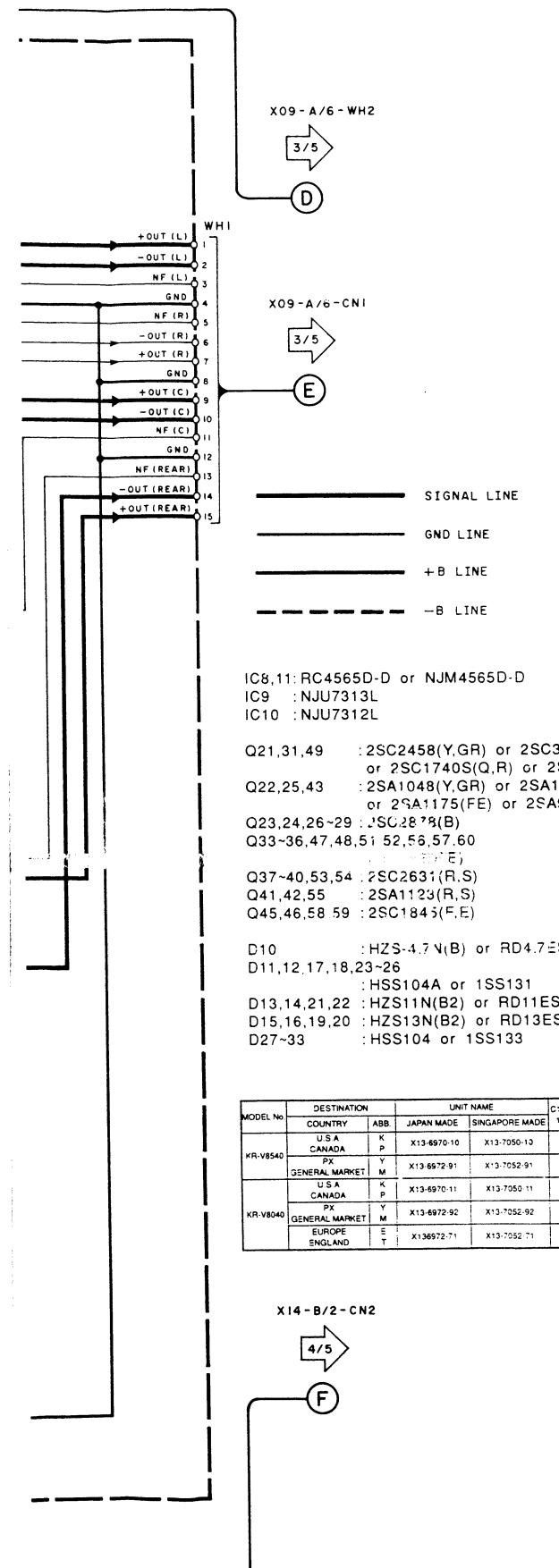
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). **⚠** Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out. (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

Y05-2610-10

KR-V8040/V8540 (1/6)

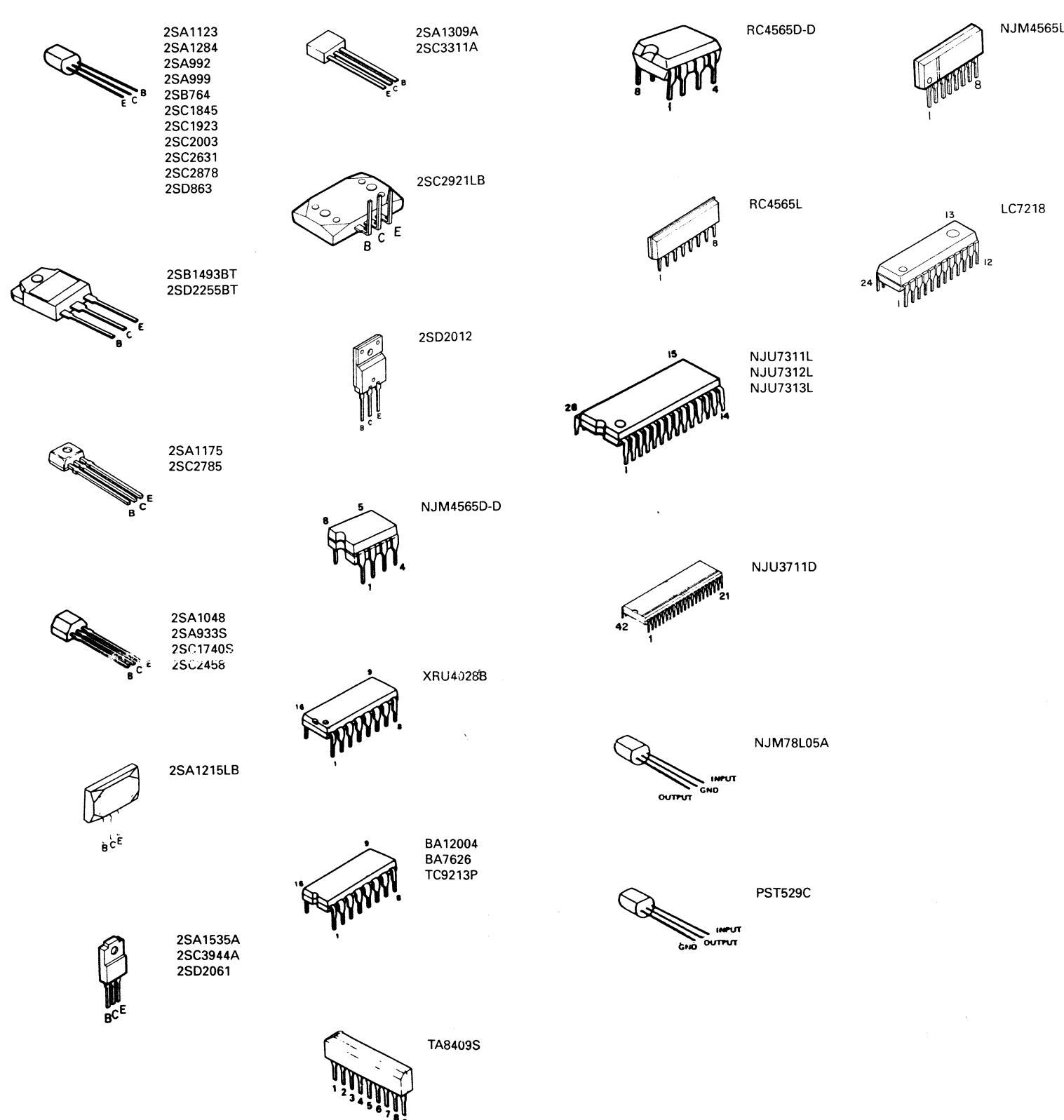
**KR-V8040/V8540**  
KENWOOD





MODEL No.	DESTINATION		UNIT NAME		C101-106,109-114, 181-186,117,118	C147, 148
	COUNTRY	ABB.	JAPAN MADE	SINGAPORE MADE		
KR-V8540	U.S.A CANADA	K P	X13-6970-10	X13-7050-13	NO	2P
	GENERAL MARKET	Y	X13-6972-91	X13-7052-91	NO	2P
KR-V8040	U.S.A CANADA	K P	X13-6970-11	X13-7050-11	NO	2P
	GENERAL MARKET	Y	X13-6972-92	X13-7052-92	NO	2P
	EUROPE ENGLAND	E T	X13-6972-71	X13-7052-71	YES	2P

Y05-2610-10

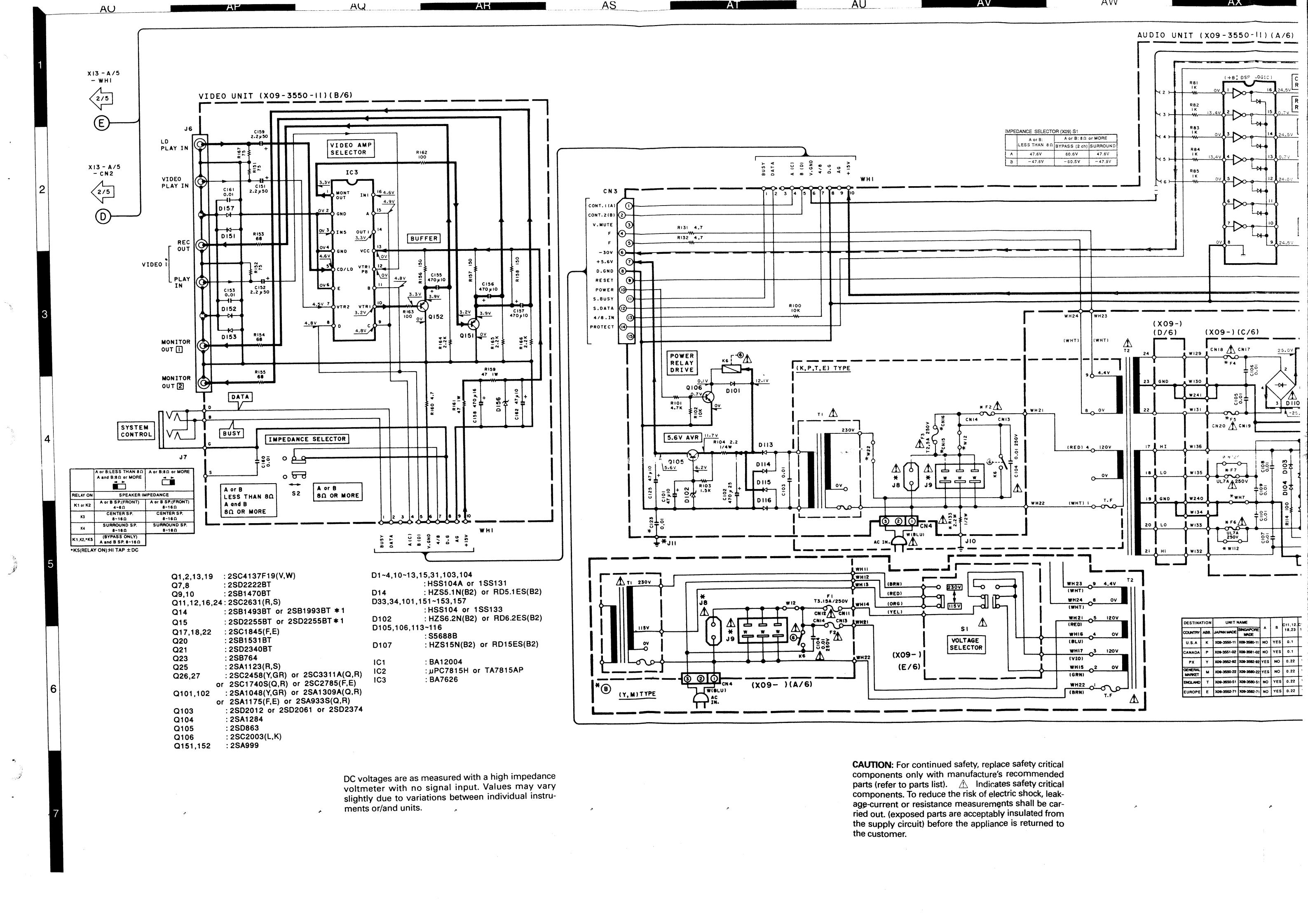


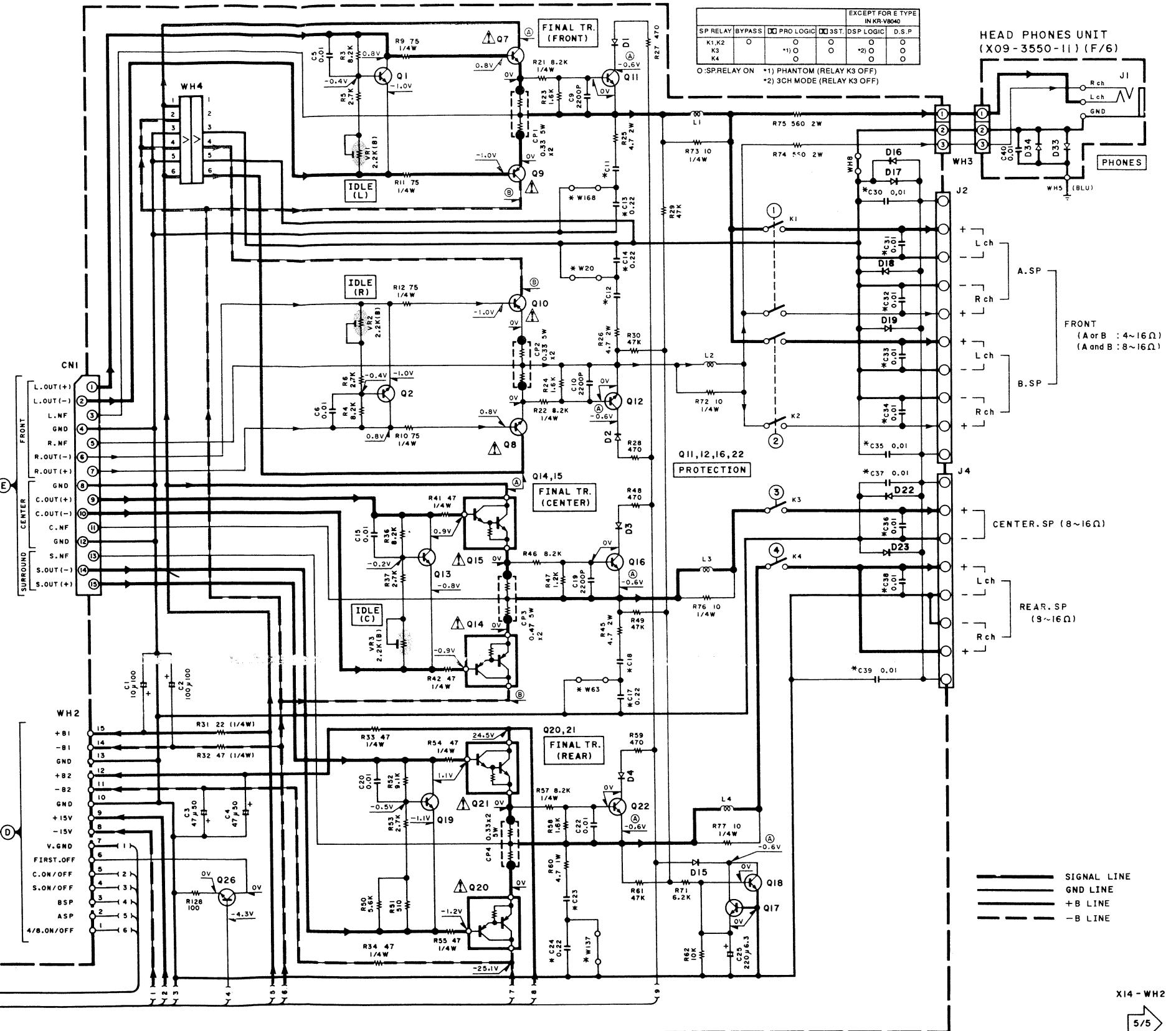
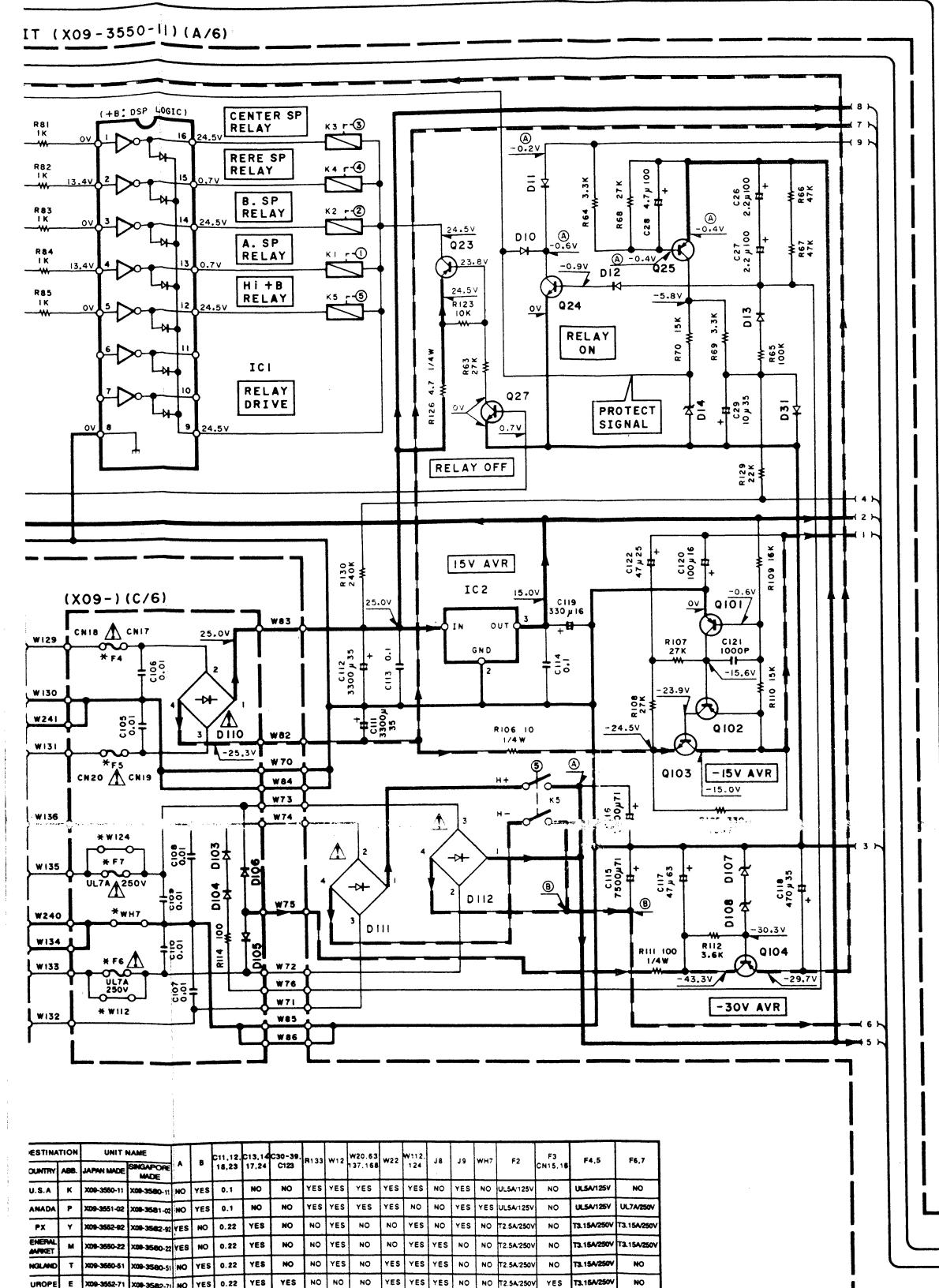
KR-V8040/V8540 (2/6)

**KR-V8040/V8540**  
KENWOOD

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out. (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



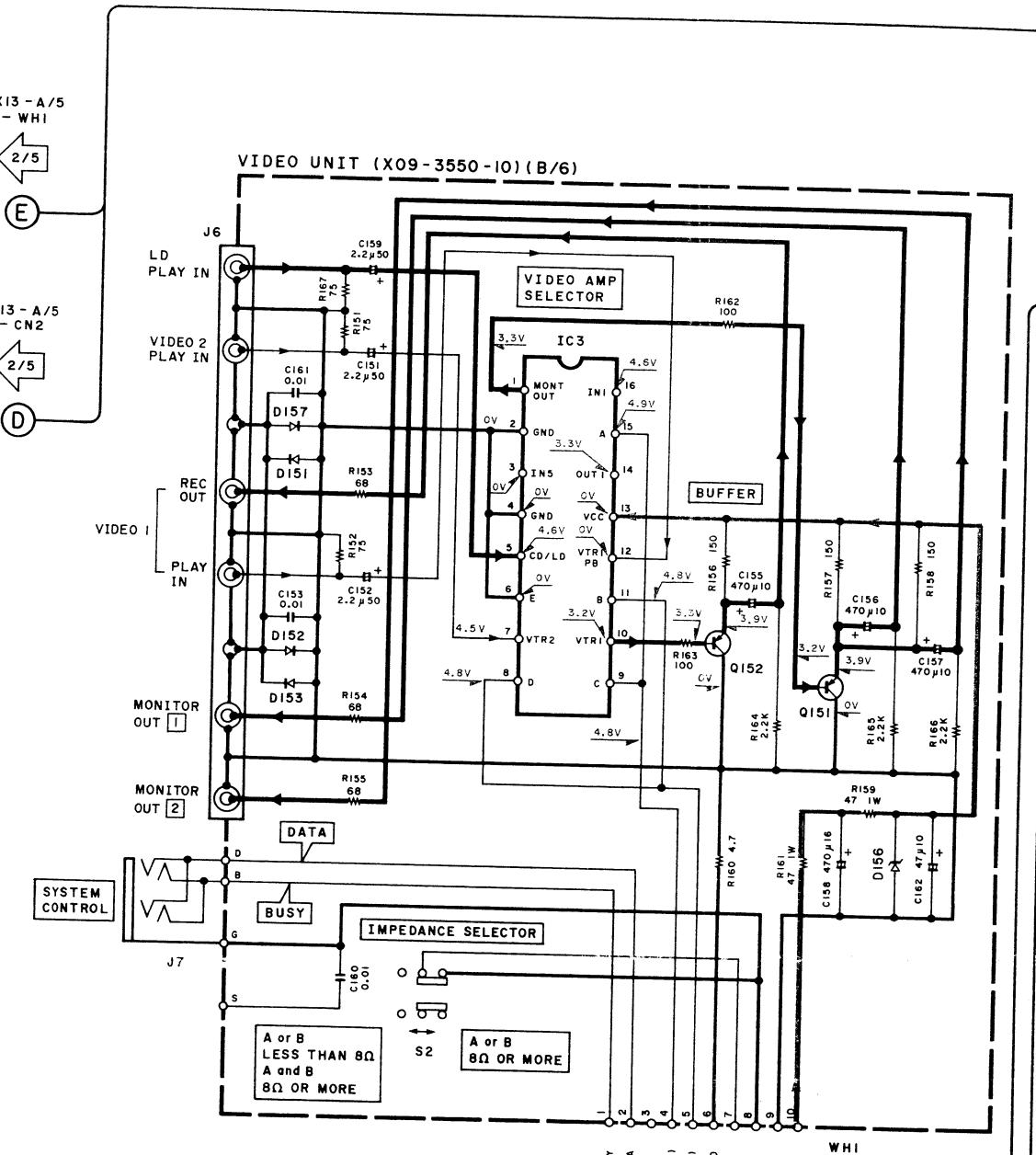


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KR-V8040 (3/6)

# KR-V8040/V8540

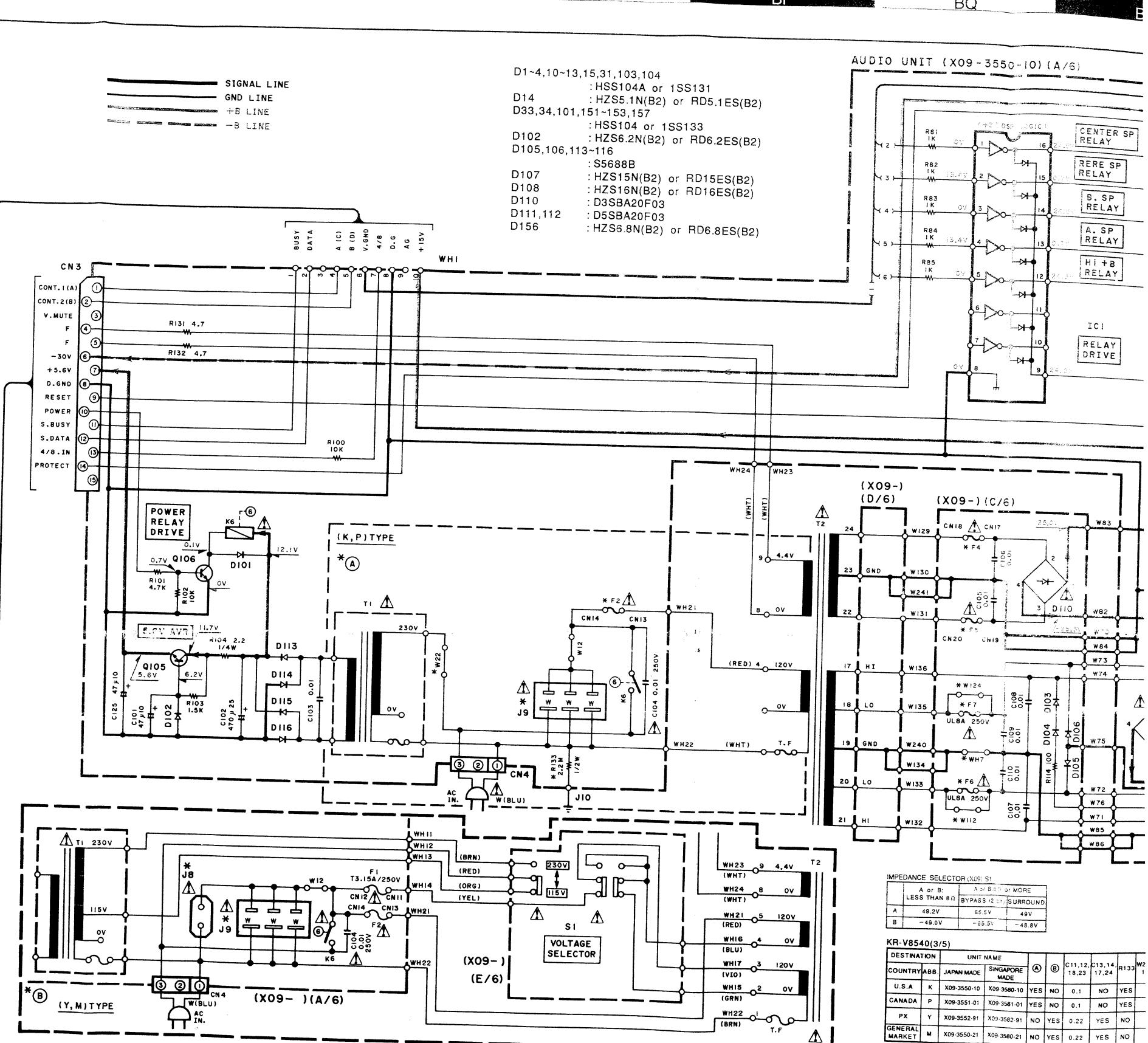
## KENWOOD



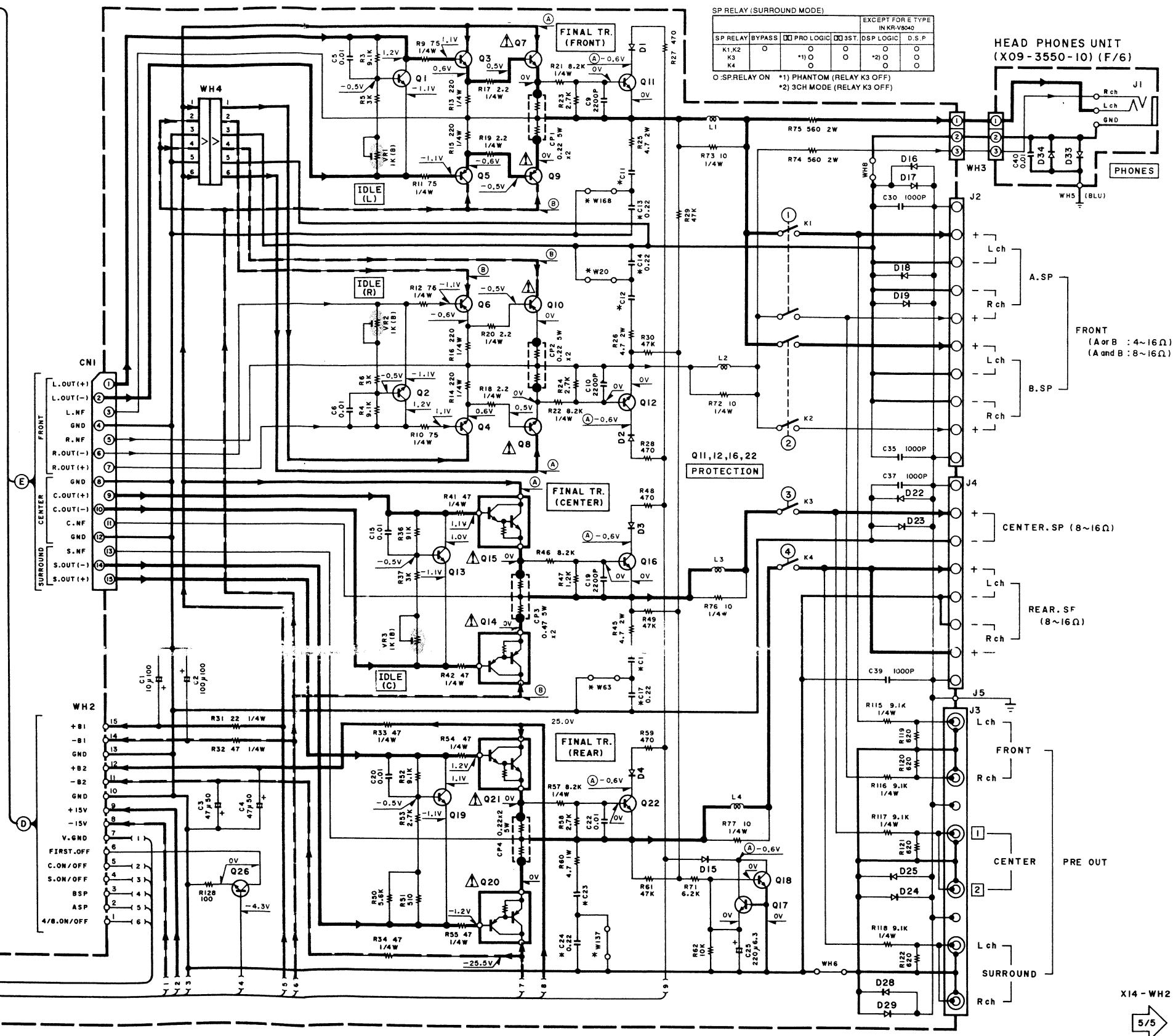
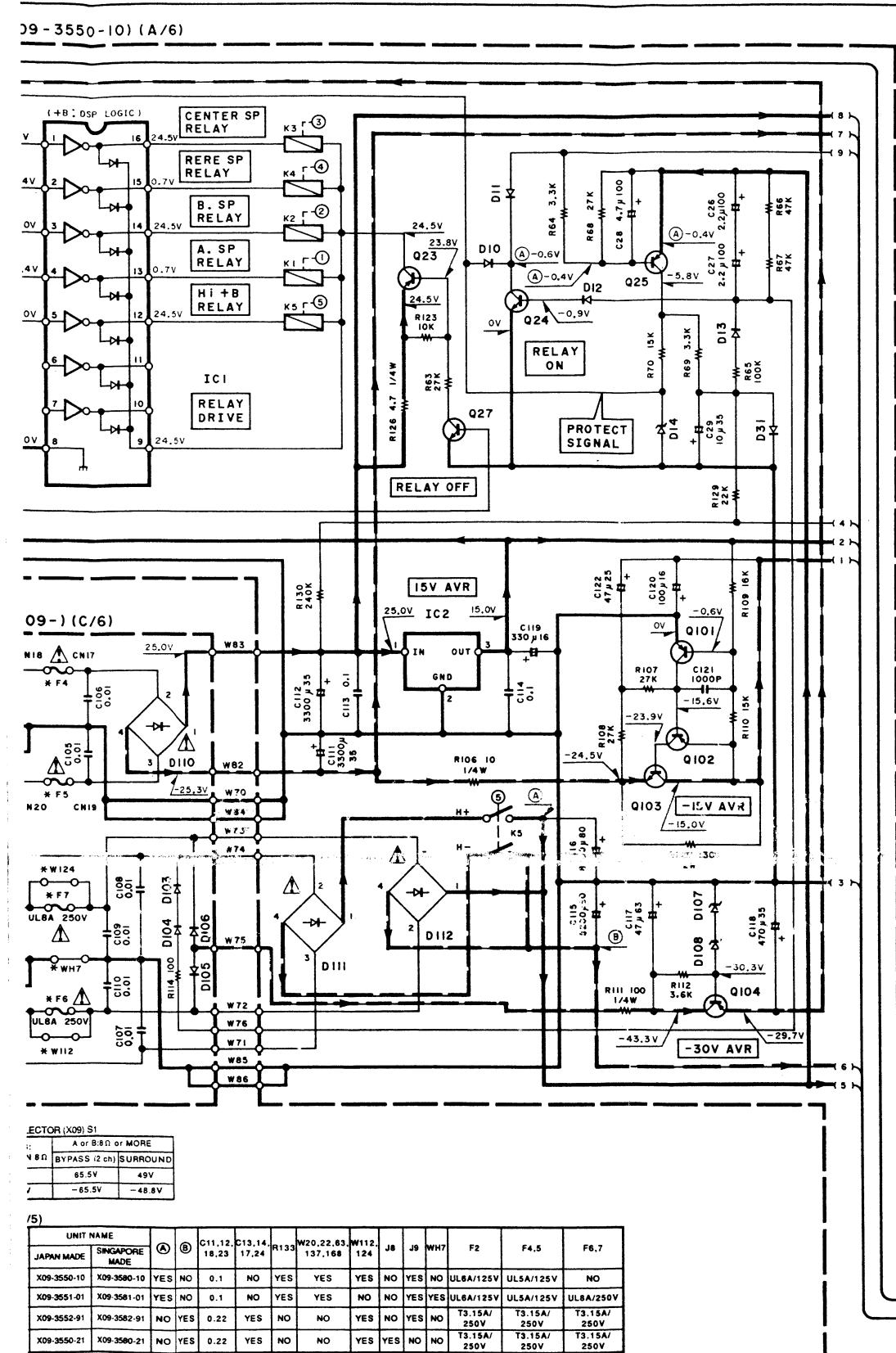
		BUSY DATA
Q1,2,13,19	: 2SC4137F19(V,W)	
Q3,4	: 2SC3944A	
Q5,6	: 2SA1535A	
Q7,8	: 2SC2921LB	
Q9,10	: 2SA1215LB	
Q11,12,16,24	: 2SC2631(R,S)	IC1
Q14	: 2SB1560LB	IC2
Q15	: 2SD2390LB	IC3
Q17,18,22	: 2SC1845(F,E)	
Q20	: 2SB1531BT	
Q21	: 2SD2340BT	
Q23	: 2SB764	
Q25	: 2SA1123(R,S)	
Q26,27	: 2SC2458(Y,GR) or 2SC3311A(Q,R) or 2SC1740S(Q,R) or 2SC2785(F,E)	
Q101,102	: 2SA1048(Y,GR) or 2SA1309A(Q,R) or 2SA1175(F,E) or 2SA933S(Q,R)	
Q103	: 2SD2012 or 2SD2061 or 2SD2374	
Q104	: 2SA1284	
Q105	: 2SD863	
Q106	: 2SC2003(L,K)	
Q151,152	: 2SA992	

	A or B LESS THAN 8Ω A and B 8Ω or MORE	A or B 8Ω or MORE 
RELAY ON	SPEAKER IMPEDANCE	
K1 or K2	A or B SP.(FRONT) 4-8Ω	A or B SP.(FRONT) 8-16Ω
K3	CENTER SP. 8-16Ω	CENTER SP. 8-16Ω
K4	SURROUND SP. 8-16Ω	SURROUND SP. 8-16Ω
K1,K2,*K5	(BYPASS ONLY) A and B SP. 8-16Ω	

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.



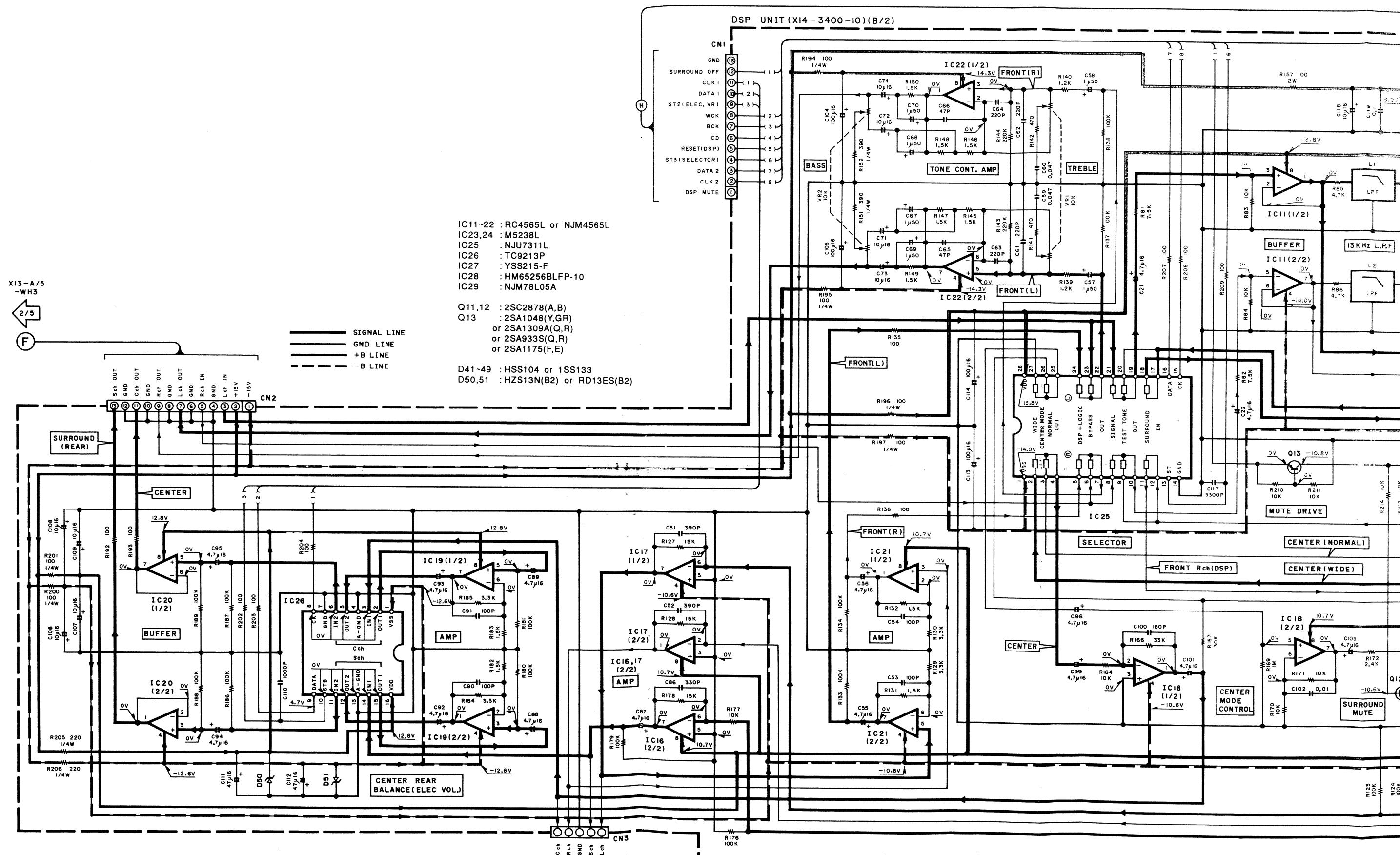
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out. (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

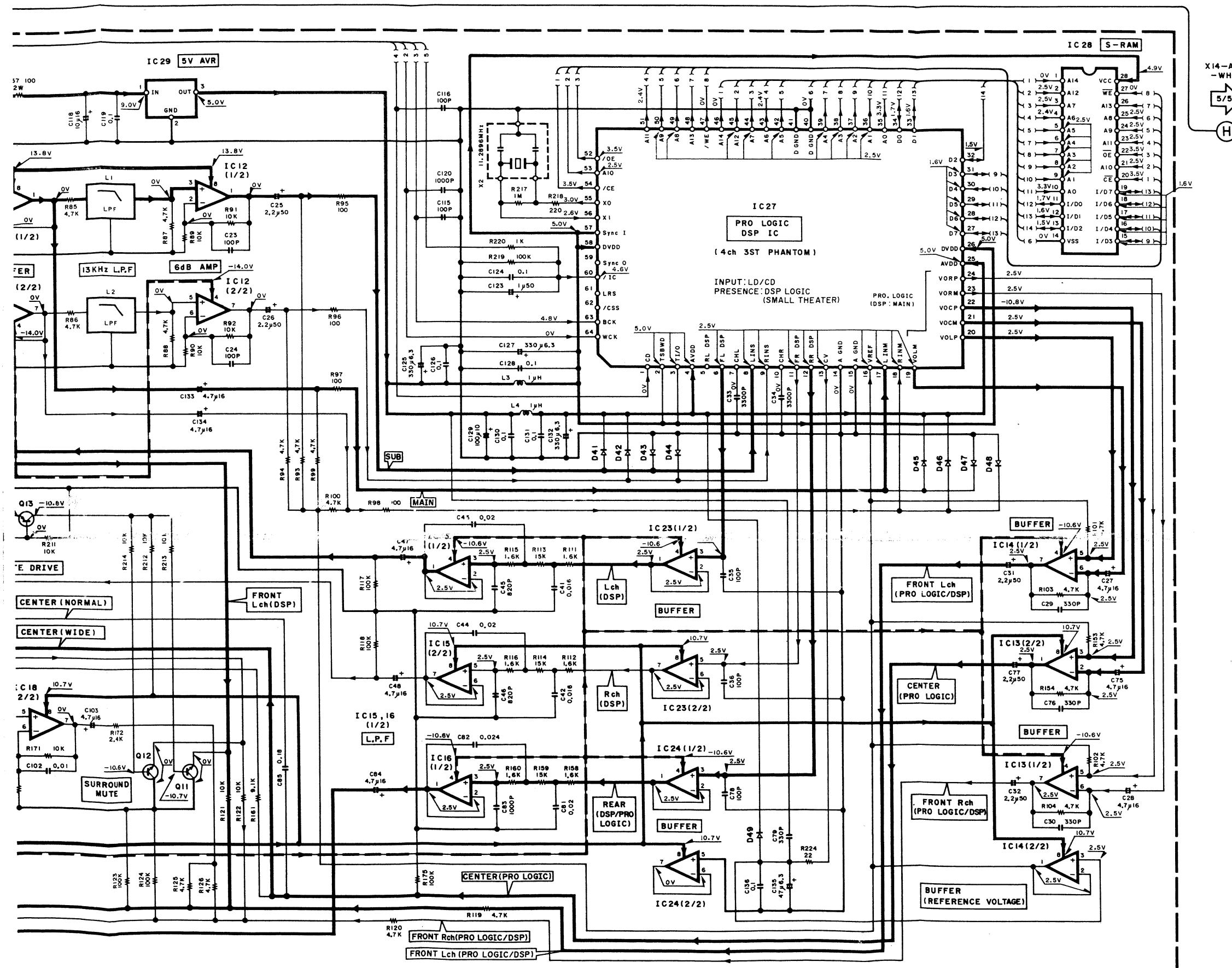


KR-V8540 (4/6)

# KR-V8040/V8540

## KENWOOD





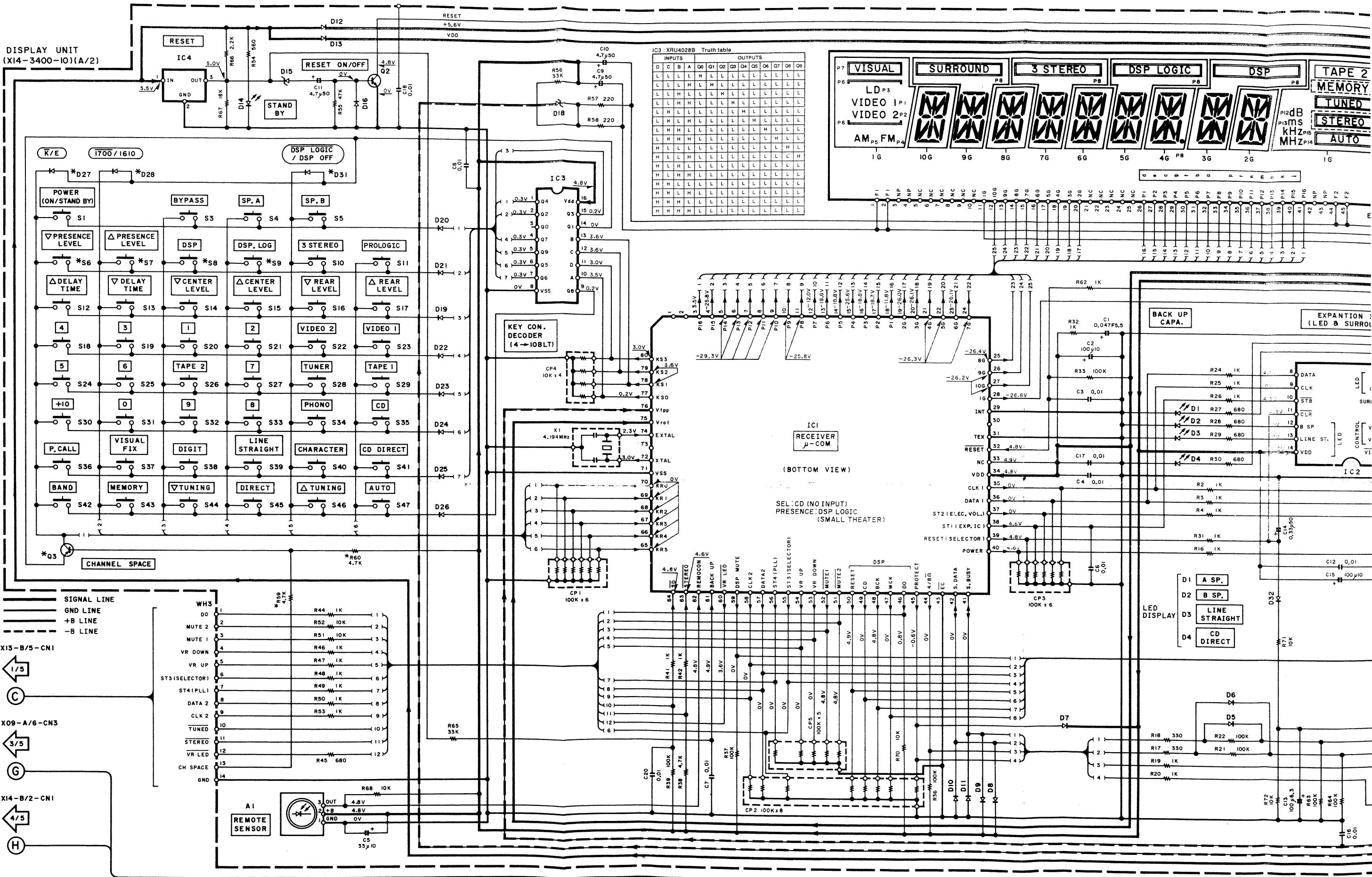
DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

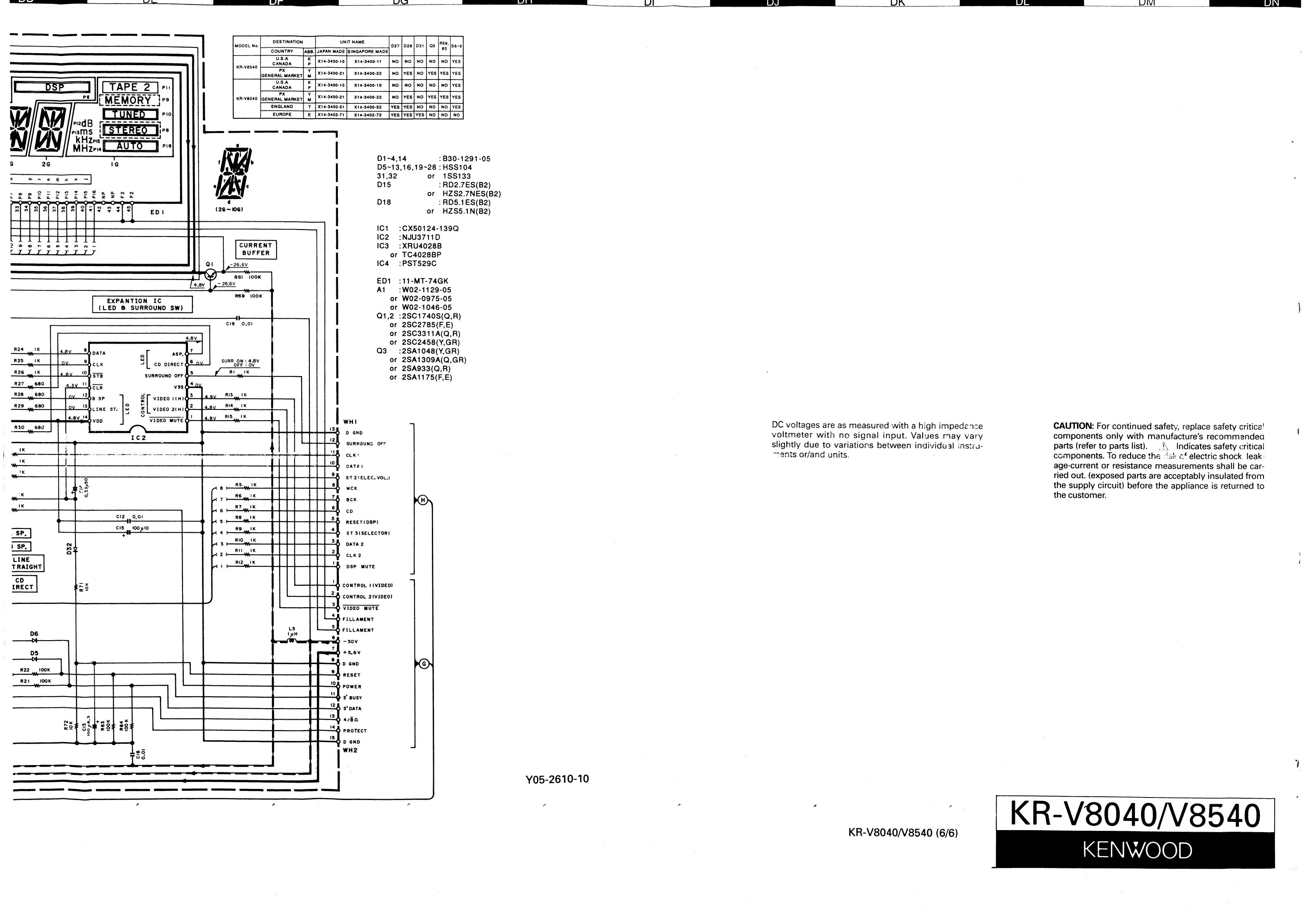
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out. (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

Y05-2610-10

KR-V8040/V8540 (5/6)

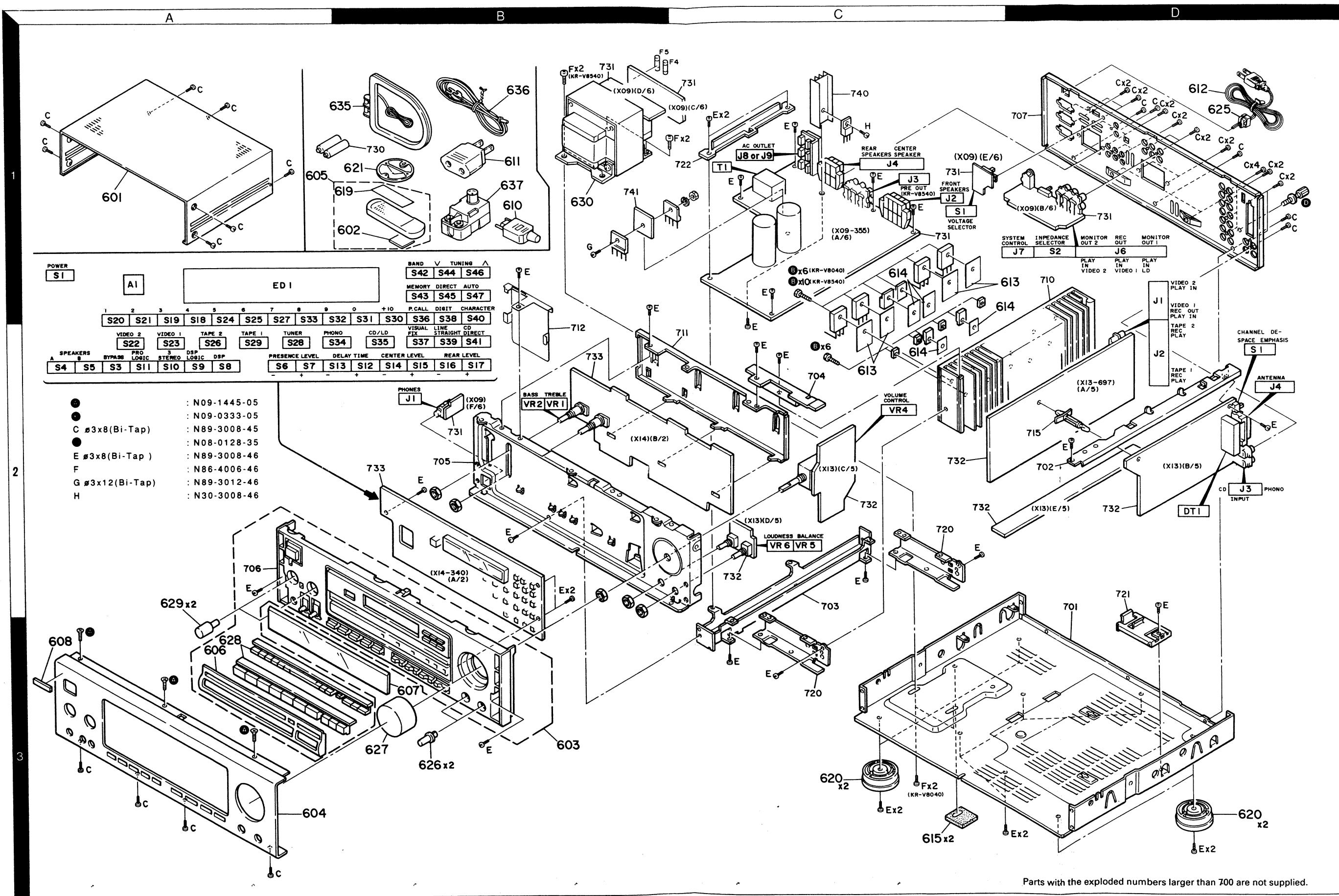
**KR-V8040/V8540**  
KENWOOD





# KR-V8040/V8540      KR-V8040/V8540

## EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

# KR-V8040/V8540

## PARTS LIST

# KR-V8040/V8540

## PARTS LIST

> New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

< New Parts  
Parts with Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

### No. 1

Ref. No.	Address	New Parts No.	Parts No.	Description	部品名 / 規格	仕事	Desti- nation	Re- marks
<b>KR - V8040 (JAPAN MADE)</b>								
601	1A	*	A01-1829-11	METALLIC CABINET				
602	1B	*	A02-0115-13	BATTERY COVER				
603	3B	*	A22-134-12	SUB PANEL ASSY				
604	3A	*	A60-0168-02	SUB PANEL				
605	3A	*	A60-0216-02	REMOTE CONTROL ASSY UNIT				
606	3A	*	X99-1900-41	ESCUTCHEON				
607	3B	*	B07-1999-02	FRONT GLASS				
608	3A	*	B43-0387-04	KENWOOD BADGE				
			B46-0092-13	WARRANTY CARD				
			B46-0094-03	WARRANTY CARD				
			B46-0096-33	WARRANTY CARD				
			B46-0121-13	WARRANTY CARD				
			B46-0122-23	WARRANTY CARD				
			B46-0143-13	WARRANTY CARD				
			B58-0513-00	QUESTIONNAIRE CARD				
			B58-0513-00	CAUTION CARD (RESET220-240)				
			B58-0513-00	INSTRUCTION MANUAL (ENGLISH)				
			B58-0513-00	INSTRUCTION MANUAL (FRENCH)				
			B60-0721-00	INSTRUCTION MANUAL (FRENCH)				
			B60-0722-00	INSTRUCTION MANUAL (F.G.D)				
			B60-0723-00	INSTRUCTION MANUAL (SP.C.H)				
			B60-0724-00	AC PLUG ADAPTER				
			B60-0725-00	AC POWER CORD				
			B60-0726-00	AC POWER CORD				
			B60-0727-00	AC POWER CORD				
			B60-0728-00	INSULATING BOARD				
			B60-0729-00	NON-WOVEN FABRIC				
			B60-0730-00	SOFT TAPE				
			B60-0731-00	POLYSTYRENE FOAMED FIXTURE				
			B60-0732-00	PROTECTION BAG (235X356X0.03)				
			B60-0733-00	PROTECTION BAG (235X356X0.03)				
			B60-0734-00	PROTECTION BAG (235X356X0.03)				
			B60-0735-00	PROTECTION BAG (235X356X0.03)				
			B60-0736-00	PROTECTION BAG (235X356X0.03)				
			B60-0737-00	PROTECTION BAG (235X356X0.03)				
			B60-0738-00	FOOT				
			B60-0739-00	ANTENNA HOLDER				
			B60-0740-00	POWER CORD BUSHING				
			B60-0741-00	WIRE BAND				
			B60-0742-00	J02-1034-04				
			B60-0743-00	J42-0083-05				
			B60-0744-00	J61-0307-05				
			B60-0745-00	K29-3632-04				
			B60-0746-00	K29-3632-04				
			B60-0747-00	KNOB (VOLUME CONTROL)				
			B60-0748-00	KNOB (LOUDNESS, BALANCE)				
			B60-0749-00	KNOB (VOLUME CONTROL)				
			B60-0750-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0751-00	KNOB (BASS, TREBLE)				
			B60-0752-00	KNOB (BASS, TREBLE)				
			B60-0753-00	KNOB (LOUDNESS, BALANCE)				
			B60-0754-00	KNOB (VOLUME CONTROL)				
			B60-0755-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0756-00	KNOB (LOUDNESS, BALANCE)				
			B60-0757-00	KNOB (VOLUME CONTROL)				
			B60-0758-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0759-00	KNOB (LOUDNESS, BALANCE)				
			B60-0760-00	KNOB (VOLUME CONTROL)				
			B60-0761-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0762-00	KNOB (LOUDNESS, BALANCE)				
			B60-0763-00	KNOB (VOLUME CONTROL)				
			B60-0764-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0765-00	KNOB (LOUDNESS, BALANCE)				
			B60-0766-00	KNOB (VOLUME CONTROL)				
			B60-0767-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0768-00	KNOB (LOUDNESS, BALANCE)				
			B60-0769-00	KNOB (VOLUME CONTROL)				
			B60-0770-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0771-00	KNOB (LOUDNESS, BALANCE)				
			B60-0772-00	KNOB (VOLUME CONTROL)				
			B60-0773-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0774-00	KNOB (LOUDNESS, BALANCE)				
			B60-0775-00	KNOB (VOLUME CONTROL)				
			B60-0776-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0777-00	KNOB (LOUDNESS, BALANCE)				
			B60-0778-00	KNOB (VOLUME CONTROL)				
			B60-0779-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0780-00	KNOB (LOUDNESS, BALANCE)				
			B60-0781-00	KNOB (VOLUME CONTROL)				
			B60-0782-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0783-00	KNOB (LOUDNESS, BALANCE)				
			B60-0784-00	KNOB (VOLUME CONTROL)				
			B60-0785-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0786-00	KNOB (LOUDNESS, BALANCE)				
			B60-0787-00	KNOB (VOLUME CONTROL)				
			B60-0788-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0789-00	KNOB (LOUDNESS, BALANCE)				
			B60-0790-00	KNOB (VOLUME CONTROL)				
			B60-0791-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0792-00	KNOB (LOUDNESS, BALANCE)				
			B60-0793-00	KNOB (VOLUME CONTROL)				
			B60-0794-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0795-00	KNOB (LOUDNESS, BALANCE)				
			B60-0796-00	KNOB (VOLUME CONTROL)				
			B60-0797-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0798-00	KNOB (LOUDNESS, BALANCE)				
			B60-0799-00	KNOB (VOLUME CONTROL)				
			B60-0800-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0801-00	KNOB (LOUDNESS, BALANCE)				
			B60-0802-00	KNOB (VOLUME CONTROL)				
			B60-0803-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0804-00	KNOB (LOUDNESS, BALANCE)				
			B60-0805-00	KNOB (VOLUME CONTROL)				
			B60-0806-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0807-00	KNOB (LOUDNESS, BALANCE)				
			B60-0808-00	KNOB (VOLUME CONTROL)				
			B60-0809-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0810-00	KNOB (LOUDNESS, BALANCE)				
			B60-0811-00	KNOB (VOLUME CONTROL)				
			B60-0812-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0813-00	KNOB (LOUDNESS, BALANCE)				
			B60-0814-00	KNOB (VOLUME CONTROL)				
			B60-0815-00	KNOB (1-0,+10, INPUT SELECTOR)				
			B60-0816-00	KNOB (LOUDNESS, BALANCE)				
			B60-0817-00</td					

# KR-V8040/V8540

## **PARTS LIST**

No. 6

Ref. No.	参照番号	Address	New Parts	Old Parts	部品番号	Parts No.	Description	部品名／規格	Desti- nation	Re- marks
C29	-39				CEO4KKW100M	CK45FFH1032	ELECTRO	100UF	35W	E
C30					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C31					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C32					CEO4KWW471M	CEO4KWW471M	ELECTRO	470UF	10W	
C33					CK45FFH1032	CK45FFH1032	ELECTRO	470UF	25W	
C34					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C35	-106	C109,110			CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C36		C111,112			CK45FFB21103P	CK45FFB21103P	ELECTRO	3300UF	35W	
C37					CEO4KKW1332M	CEO4KKW1332M	ELECTRO	3300UF	35W	
C38					C92EFV1H104J	C92EFV1H104J	MF	0.10UF	J	
C39					C90-1870-05	C90-1870-05	ELECTRO	7500UF	71W	
C40					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	63W	
C41					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	35W	
C42					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	16W	
C43					CEO4KKW1C101M	CK45FFB1102K	ELECTRO	100UF	16W	
C44					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	1000UF	K	
C45					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C46					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	25W	
C47					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	10W	
C48					CK45FFH1032	CK45FFH1032	ELECTRO	2.2UF	50W	
C49					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C50					CEO4KKW1471M	CEO4KKW1471M	ELECTRO	470UF	10W	
C51					CEO4KWW471M	CEO4KWW471M	ELECTRO	470UF	16W	
C52					CEO4KWW471M	CEO4KWW471M	ELECTRO	2.2UF	50W	
C53					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C54					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	10W	
C55					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	16W	
C56					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C57					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	25W	
C58					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C59					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	10W	
C60					CK45FFH1032	CK45FFH1032	CERAMIC	0.010UF	Z	
C61					CEO4KKW1470M	CEO4KKW1470M	ELECTRO	470UF	16W	
C62					E11-0208-05	E11-0208-05	PHONE JACK (PHONE)			
J1		2B			E10-0015-05	E10-0015-05	LOCK TERMINAL BOARD (C, R, SP)			
J2		1C			E10-0020-05	E10-0020-05	LOCK TERMINAL BOARD (C, R, SP)			
J3		1C			E70-0001-05	E70-0001-05	LOCK TERMINAL BOARD (C, R, SP)			
J4		1C			E70-0014-05	E70-0014-05	LOCK TERMINAL BOARD (C, R, SP)			
J5		1C			E63-0039-05	E63-0039-05	PHONE JACK (PHONE)			
J6		1D			E11-0188-05	E11-0188-05	MINIATURE PHONE JACK (S. CONT.)			
J7		1D			E63-0108-05	E63-0108-05	AC OUTLET			
J8		1C			E63-0109-05	E63-0109-05	AC OUTLET			
J9		1C			E03-0111-05	E03-0111-05	AC OUTLET			
F1					F05-2525-05	F05-2525-05	FUSE (SEMIK)	(250V T2.5A)	YMT	
F2					F04-5022-05	F04-5022-05	FUSE (UL)	(125V 5A UL)	KP	
F3					F05-2525-05	F05-2525-05	FUSE (SEMIK)	(250V T2.5A)	YMTB	
F4					F05-2525-05	F05-2525-05	FUSE (UL)	(250V T2.5A)	E	
F5					F04-5022-05	F04-5022-05	FUSE (UL)	(125V 5A UL)	KP	
F6					F05-3121-05	F05-3121-05	FUSE (SEMIK)	(250V T3.15A)	YMT	
F7					F05-7026-05	F05-7026-05	FUSE (UL)	(250V 7A UL)	P	
J11		12			J13-0075-05	J13-0075-05	FUSE CLIP			
J12		14			J13-0075-05	J13-0075-05	FUSE CLIP			
J13		14			J13-0075-05	J13-0075-05	FUSE CLIP			
J14		16			J13-0075-05	J13-0075-05	FUSE CLIP			
J15		16			J13-0075-05	J13-0075-05	FUSE CLIP			
J16		24			J13-0055-05	J13-0055-05	FUSE CLIP			
J17		24			J13-0055-05	J13-0055-05	FUSE CLIP			
J18					J13-0085-05	J13-0085-05	PHASE COMPENSATION COIL			
J19					LO1-7551-05	LO1-7551-05	POWER TRANSFORMER			
J20					LO1-7553-05	LO1-7553-05	POWER TRANSFORMER			
J21					LO1-7657-05	LO1-7657-05	POWER TRANSFORMER			
J22					J1-4	J1-4				

Location	Y-FX(Far East, Hawaii)	T-England	E-Europe	F-France	U-Canada	A-Indonesia
Location	Y-FX(Far East, Hawaii)	T-England	E-Europe	F-France	U-Canada	A-Indonesia

⚠ indicates safety critical components.

No. 5

S : SINGAPORE M : indicates safety critical component  
P : Canada E : Europe A :   
R : USA T : England M : Other Areas X : Australia

\* New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne  
peuvent être commandés que lorsque les articles  
correspondants sont commandés.

**No. 6**

- × New Parts
- Parts without Parts No. are not supplied.
- Les articles non mentionnés dans le Parts No. ne sont pas fournis.
- Teile ohne Parts No. werden nicht geliefert.

## PARTS LIST

No. 8

× New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
 Tell one Parts No. we do not supply.  
 Tell one Parts No. werden nicht geliefert.

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Tell one Parts No.

Tells one Parts No. werden nicht geliefert.

Ref. No.	Address	Parts No.	Description	Parts No.	Description	Ref. No.	Address	Parts No.	Description	Ref. No.	Description	
参照番号	位番	部品番号	部品名／規格	部品番号	部品名／規格	参照番号	位番	部品番号	部品名／規格	参照番号	位番	
E	1C	N89-3008-46	BINDING HEAD TAPIT SCREW	031		1SS131				DIODE		
G	1B	N89-3008-46	PAN HEAD TAPIT SCREW	033	,34	HSS104				DIODE		
H	1C	N30-3008-46	PAN HEAD MACHIN SCREW	033	,34	HSS133				DIODE		
CP1 , 2	*	R90-0888-05	COMPOSITE ELEMENTS 0.33X2 5W	0101		HSS104				DIODE		
CP3	*	R90-0888-05	COMPOSITE ELEMENTS 0.4X2 5W	0101		HSS133				DIODE		
CP4	*	R90-0888-05	COMPOSITE ELEMENTS 0.33X2 5W	0102		HSS6-2N(B2)				ZENER DIODE		
R9	-12	RD14NB2E75UJ	RD 75	0102		RD125-125(B2)				ZENER DIODE		
R21	,22	RD14NB2E75UJ	RD 8.2K	0103	,104	HSS104A				ZENER DIODE		
R25	,26	RS14KB3D4R7U	FL-PROOF RS 4.7	0103	,104	RD1585(B2)				ZENER DIODE		
R31	,34	RD14NB2E75UJ	RD 22	0105	,106	RS1585(B2)				ZENER DIODE		
R32	,34	RD14NB2E75UJ	RD 4.7	0107		HSS15N(B2)				ZENER DIODE		
R41	,42	RS14KB3D4R7U	FL-PROOF RS 4.7	0107		RD1585(B2)				ZENER DIODE		
R45		RS14KB3D4R7U	FL-PROOF RS 4.7	0108		RS1585(B2)				ZENER DIODE		
R46	,55	RD14NB2E82UJ	RD 8.2K	0108		RS1585(B2)				ZENER DIODE		
R54		RD14NB2E4R7U	RD 4.7	0110		RD1655(B2)				ZENER DIODE		
R57		RD14NB2E82UJ	RD 8.2K	0110		RS58A0F03				ZENER DIODE		
R60		RS14DBA4R7U	FL-PROOF RS 4.7	0111	,112	RS6888				DIODE		
R72	,73	RD14NB2E10UJ	RD 10	0111	,116	HS104				DIODE		
R74	,75	RS14KB3D56UJ	FL-PROOF RS 560	0112		HS113				DIODE		
R76	,77	RD14NB2E10UJ	RD 10	0112		HSS6-8N(B2)				ZENER DIODE		
R104		RD14NB2E2R7U	RD 2.2	0113		RD6-0ES(B2)				ZENER DIODE		
R106		RD14NB2E10UJ	RD 1.0	0113		RS104				DIODE		
R111		RD14NB2E10UJ	RD 1.0	0113		RS113				DIODE		
R114		RS14KB3D56UJ	FL-PROOF RS 100	0114		IC12004				IC(CH TRANSISTOR ARRAY)		
R125		RS14KB3D56UJ	FL-PROOF RS 330	0114		TA7615AP				IC(VOLTAGE REGULATOR/+15V)		
R126		RD14NB2E10UJ	RD 4.7	0115		RD7615H				IC(VOLTAGE REGULATOR/+15V)		
R133		RD14NB2E2R7U	RD 2.2M	0115		BA7626				IC(VOL. SIGNAL SELECTOR)		
R159		RD14NB2E10UJ	FL-PROOF RS 4.7	0115		2SC4137F19(V,W)				TRANSISTOR		
R161		RS14DB3A4R7U	FL-PROOF RS 4.7	0116		2SD2222BT				TRANSISTOR		
VR1	-3	RS14NB2E10UJ	FL-PROOF RS 4.7	0116		2SB1470BT				TRANSISTOR		
R12	-16.7	R12-16.7-05	TRIMMING POT(2.2K)(IDLE CUR.)	0117								
K1	,2	S51-2078-05	MAGNETIC RELAY(A,B SP. ON/OFF)	Q11	,12	2SC2631(R,S)				TRANSISTOR		
K1	,2	S51-2092-05	MAGNETIC RELAY(A,B SP. ON/OFF)	Q13		2SC4137F19(V,W)				TRANSISTOR		
K3	,4	S74-0005-05	MAGNETIC RELAY(C,B SP. ON/OFF)	Q14		2SB1493BT				TRANSISTOR		
K5		S76-0016-05	MAGNETIC RELAY(HI +B SP. ON/OFF)	Q14		2SB1493BT*1				TRANSISTOR		
K5		S76-0017-05	MAGNETIC RELAY(HI +B SP. ON/OFF)	Q15		2SD255BT				TRANSISTOR		
K6	△	RS14DB3A4R7U	MAGNETIC RELAY(POWER SELECTOR)	Q16		2SD255BT*1				TRANSISTOR		
S1	1C	S31-2094-05	SLIDE SWITCH(VOLTAGE SELECT)	Q17	,18	2SC2631(R,S)				TRANSISTOR		
S2	1D	S31-2094-05	SLIDE SWITCH(IMPEDANCE SELECT)	Q19		2SC1845F(E)				TRANSISTOR		
D1	-4	HSS104A	DIODE	Q20		2SC4137F19(V,W)				TRANSISTOR		
D1	-4	HSS104A	DIODE	△		2SB1531BT				TRANSISTOR		
D10	-13	HSS104A	DIODE	Q21								
D14		HSS131	DIODE	Q22								
D14		HSS131	DIODE	Q23								
D14		HSS131	DIODE	Q24								
D15		HSS104A	DIODE	Q25								
D16	-19	HSS104	DIODE	Q26	,27	2SC1740S(Q,R)				TRANSISTOR		
D16	-19	HSS133	DIODE	Q26	,27	2SC445F(Y,GR)				TRANSISTOR		
D22	-25	HSS104	ZENER DIODE	Q26	,27	2SC2785((L,E)				TRANSISTOR		
D22	-25	HSS133	ZENER DIODE	Q26	,27	2SC2631(R,S)				TRANSISTOR		
D28	,29	HSS104	DIODE	Q101	,102	2SA1123(R,S)				TRANSISTOR		
D28	,29	HSS133	DIODE	Q101	,102	2SA1175(F,E)				TRANSISTOR		
D31		HSS104A	DIODE	Q103		2SA1309A(Q,R)				TRANSISTOR		
						2SA935S(Q,R)				TRANSISTOR		
						2SD2012				TRANSISTOR		
						2SD2061				TRANSISTOR		

1:Scandinavia  
 2:USA  
 3:Canada  
 4:Europe  
 5:Other Areas  
 6:Australia  
 7:England  
 8:France  
 9:Germany  
 10:Italy  
 11:Spain  
 12:Portugal  
 13:Greece  
 14:Hungary  
 15:Poland  
 16:Czechoslovakia  
 17:Yugoslavia  
 18:Y.R.P.R.  
 19:Y.A.A.F.E.(Europe)  
 20:Y.A.A.F.E.(East, Hawaii)  
 21:Y.A.A.F.E.(Other Areas)

△ indicates safety critical component  
 ▲ indicates safety critical component

No. 7

× New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
 Tell one Parts No. we do not supply.  
 Tell one Parts No. werden nicht geliefert.

Ref. No.	Address	Parts No.	Description	Parts No.	Description	Ref. No.	Address	Parts No.	Description	Ref. No.	Description
参照番号	位番	部品番号	部品名／規格	部品番号	部品名／規格	参照番号	位番	部品番号	部品名／規格	参照番号	位番
E	1C	N89-3008-46	BINDING HEAD TAPIT SCREW	031		1SS131				DIODE	
G	1B	N89-3008-46	PAN HEAD TAPIT SCREW	033	,34	HSS104				DIODE	
H	1C	N30-3008-46	PAN HEAD MACHIN SCREW	033	,34	HSS133				DIODE	
CP1 , 2	*	R90-0888-05	COMPOSITE ELEMENTS 0.33X2 5W	0101		HSS104				DIODE	
CP3	*	R90-0888-05	COMPOSITE ELEMENTS 0.4X2 5W	0101		HSS133				DIODE	
CP4	*	R90-0888-05	COMPOSITE ELEMENTS 0.33X2 5W	0102		HSS15N(B2)				ZENER DIODE	
R9	-12	RD14NB2E75UJ	RD 75	0102		RD125-125(B2)				ZENER DIODE	
R21	,22	RD14NB2E75UJ	RD 8.2K	0103	,104	HSS104A				ZENER DIODE	
R25	,26	RS14KB3D4R7U	FL-PROOF RS 4.7	0103	,104	RD1655(B2)				ZENER DIODE	
R31	,34	RD14NB2E75UJ	RD 22	0105	,106	RS1585(B2)				ZENER DIODE	
R32	,34	RD14NB2E75UJ	RD 4.7	0107		RS1585(B2)				ZENER DIODE	
R41	,42	RS14KB3D4R7U	FL-PROOF RS 4.7	0107		HSS15N(B2)				ZENER DIODE	
R45		RS14KB3D4R7U	FL-PROOF RS 4.7	0108		RD1585(B2)				ZENER DIODE	
R46	,55	RD14NB2E82UJ	RD 8.2K	0108		RD1655(B2)				ZENER DIODE	
R54		RD14NB2E4R7U	RD 4.7	0110		RD6-0ES(B2)				ZENER DIODE	
R57		RD14NB2E82UJ	RD 8.2K	0110		RS58A0F03				ZENER DIODE	
R60		RS14DBA4R7U	FL-PROOF RS 4.7	0111		RS6888				DIODE	
R72	,73	RD14NB2E10UJ	RD 10	0111		HS104				DIODE	
R74	,75	RS14KB3D56UJ	FL-PROOF RS 560	0112		HS113				DIODE	
R76	,77	RD14NB2E10UJ	RD 10	0112		HSS6-8N(B2)				ZENER DIODE	
R104		RD14NB2E2R7U	RD 2.2	0113		RD6-0ES(B2)				ZENER DIODE	
R106		RD14NB2E10UJ	RD 1.0	0113		RS104				DIODE	
R111		RD14NB2E10UJ	RD 1.0	0113		RS113				DIODE	
R114		RS14KB3D56UJ	FL-PROOF RS 100	0114		IC12004				IC(CH TRANSISTOR ARRAY)	
R125		RS14KB3D56UJ	FL-PROOF RS 330	0114		TA7615AP				IC(VOLTAGE REGULATOR/+15V)	
R126		RD14NB2E10UJ	RD 4.7	0115		RD7615H				IC(VOLTAGE REGULATOR/+15V)	
R133		RD14NB2E2R7U	RD 2.2M	0115		BA7626				IC(VOL. SIGNAL SELECTOR)	
R159		RD14NB2E10UJ	FL-PROOF RS 4.7	0115		2SC4137F19(V,W)				TRANSISTOR	
R161		RS14DB3A4R7U	FL-PROOF RS 4.7	0116		2SD2222BT				TRANSISTOR	
VR1	-3	RS14NB2E10UJ	FL-PROOF RS 4.7	0116		2SB1470BT				TRANSISTOR	
K1	,2	S51-2092-05	MAGNETIC RELAY(A,B SP. ON/OFF)	Q11	,12	2SC2631(R,S)				TRANSISTOR	
K1	,2	S51-2092-05	MAGNETIC RELAY(A,B SP. ON/OFF)	Q13		2SC4137F19(V,W)				TRANSISTOR	
K3	,4	S74-0005-05	MAGNETIC RELAY(C,B SP. ON/OFF)	Q14		2SB1493BT				TRANSISTOR	
K5		S76-0016-05	MAGNETIC RELAY(HI +B SP. ON/OFF)	Q14		2SD255BT				TRANSISTOR	
K5		S76-0017-05	MAGNETIC RELAY(HI +B SP. ON/OFF)	Q15		2SD255BT*1				TRANSISTOR	
K6	△	RS14DB3A4R7U	MAGNETIC RELAY(POWER SELECTOR)	Q16		2SC2631(R,S)				TRANSISTOR	
S1	1C	S31-2094-05	SLIDE SWITCH(VOLTAGE SELECT)	Q17	,18	2SC1845F(E)				TRANSISTOR	
S2	1D	S31-2094-05	SLIDE SWITCH(IMPEDANCE SELECT)	Q19		2SC4137F19(V,W)				TRANSISTOR	
D1	-4	HSS104A	DIODE	Q20		2SB1531BT				TRANSISTOR	
D1	-4	HSS104A	DIODE	△							
D10	-13	HSS104A	DIODE	Q21							
D14		HSS131	DIODE	Q22							
D14		HSS131	DIODE	Q23							
D14		HSS131	DIODE	Q24							
D15		HSS104A	DIODE	Q25							
D16	-19	HSS104	DIODE	Q26	,27	2SC1740S(Q,R)				TRANSISTOR	
D16	-19	HSS133	DIODE	Q26	,27	2SC445F(Y,GR)				TRANSISTOR	
D22											



No. 12

✗ New Parts  
 Parts without Parts No. are not supplied.  
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
 Tele ohne Parts No. werden nicht geliefert.

No. 11

Ref. No.	Address	Parts No.	Description	部品名 / 规 格	Parts No.	Description	部品名 / 规 格	Desti- nation マーク 仕向 備考
参照番号	位 置	部品番号	部品番号	部品番号	部品番号	部品番号	部品番号	部品番号
K1 , 2		S51-2078-05	MAGNETIC RELAY, 8 SP. ON/OFF	Q9 , 10	2SA1215LB	TRANSISTOR		
K1 , 2		S51-2092-05	MAGNETIC RELAY, 8 SP. ON/OFF	Q11 , 12	2SC2631(R, S)	TRANSISTOR		
K3 , 4		S51-0005-05	MAGNETIC RELAY, 8 SP. ON/OFF	Q13	2SA1756(W)	TRANSISTOR		
K5		S76-0016-05	MAGNETIC RELAY(Hi + B ON/OFF)	Q14	*	2SA1505LB	TRANSISTOR	
K5		S76-0017-05	MAGNETIC RELAY(Hi + B ON/OFF)	Q15	*	2SD230LB	TRANSISTOR	
K6	IC 1D	S76-0002-05	MAGNETIC RELAY POWER SELECTOR	Q16	2SC2631(R, S)	TRANSISTOR		
S2		S31-3010-05	SLIDE SWITCH(VOLTAGE SELECTOR)	Q17 , 18	2SC1845(F, E)	TRANSISTOR		
		S31-2094-05	SLIDE SWITCH(IMPEDANCE SELECT)	Q19	2SC4177F(W)	TRANSISTOR		
D1 , -4		HSS104A	ZENER DIODE	Q20	*	2SA1515BT	TRANSISTOR	
D10 , -4		ISS131	DIODE	Q21	*	2SC1234BT	TRANSISTOR	
D10 , -13		HSS104A	DIODE	Q22	2SC1845(F, E)	TRANSISTOR		
D14		ISS131	DIODE	Q23	2SB764	TRANSISTOR		
D14		HZ55.1N(B2)	ZENER DIODE	Q24	2SC2631(R, S)	TRANSISTOR		
D14		RDS105(B2)	ZENER DIODE	Q25	2SA1123(R, S)	TRANSISTOR		
D15		HSS104A	DIODE	Q26 , 27	2SC17405(Q, R)	TRANSISTOR		
D16 , -19		ISS131	DIODE	Q26 , 27	2SC2458(Y, GR)	TRANSISTOR		
D16 , -19		HSS104	DIODE	Q26 , 27	2SC2785(F, E)	TRANSISTOR		
D16		ISS133	DIODE	Q26 , 27	2SC3311AQ(R)	TRANSISTOR		
D22 , -25		HSS104	DIODE	Q26 , 27	2SA1048(Y, GR)	TRANSISTOR		
D22 , -25		ISS133	DIODE	Q26 , 27	2SD2041	TRANSISTOR		
D28 , -29		HSS104	DIODE	Q26 , 27	2SD2374	TRANSISTOR		
D31		ISS133	DIODE	Q26 , 27	2SA175(F, E)	TRANSISTOR		
D31		HSS104	DIODE	Q26 , 27	2SA1309AQ(R)	TRANSISTOR		
D33 , -34		ISS133	DIODE	Q26 , 27	2SA1933S(Q, R)	TRANSISTOR		
D101		HSS104	DIODE	Q26 , 27	2SD2012	TRANSISTOR		
D101		ISS133	DIODE	Q26 , 27	2SD2061	TRANSISTOR		
D102		HZ56.2N(B2)	ZENER DIODE	Q28	2SA1284	TRANSISTOR		
D102		RDS105(B2)	ZENER DIODE	Q29	2SD863	TRANSISTOR		
D103 , 104		HSS104A	DIODE	Q29	2SC2003(L, K)	TRANSISTOR		
D103 , 104		ISS133	DIODE	Q29	2SA999	TRANSISTOR		
D105 , 106		S56888	DIODE					
D107		HZ515N(B2)	ZENER DIODE	C1 , 2				
D107		RDS156S(B2)	ZENER DIODE	C3	C445FF1H103Z	CERAMIC	0.010UF	Z
D108		HZ514N(B2)	ZENER DIODE	C4	C044KW1C470M	ELECTRO	0.022UF	16W
D108		RDS165S(B2)	ZENER DIODE	C5	C445FF1H103Z	CERAMIC	0.010UF	Z
D110		DSSBA20F03	DIODE	C6	C445FF1H1473Z	CERAMIC	0.047UF	Z
D111 , 112		DSSBA20F03	DIODE	C7	C044KW1H010M	ELECTRO	1.0UF	50W
D113 , 116		S56888	DIODE	C8	C092M1H682J	MYLAR	6800PF	K
D151-153		HSS104	DIODE	C9	C445FF1H330J	CERAMIC	0.010UF	K
D151-153		ISS133	DIODE	C10	C044KW1H330J	CERAMIC	33PF	J
D156		HZ56.8N(B2)	ZENER DIODE	C11	C044KW1V100H	ELECTRO	1.0UF	35W
D156		RDS104	ZENER DIODE	C12	C044KW1H010M	ELECTRO	1.0UF	50W
D157		ISS133	DIODE	C13	C044KW1H330J	ELECTRO	1.0UF	50W
IC1		BA12004	IC(VOLTAGE REGULATOR +15V)	C14	C044KW1H72Z	MYLAR	0.012UF	J
IC2		TA7815AP	IC(VOLTAGE REGULATOR +15V)	C21 , 22	C092M1H562J	MYLAR	5600PF	KP
IC2		UPC7815F(B2)	IC(VOLTAGE SIGNAL SELECTOR)	C21 , 22	C092M1H82Z	MYLAR	0.012UF	ET
IC3		BA77616	IC(VOLTAGE SIGNAL SELECTOR)	C23	C992M1H82Z	MYLAR	8200PF	J
Q3 , 4		2SC4137F19(V, W)	TRANSISTOR	C23	C044KW1A470M	ELECTRO	1.0UF	35W
Q5 , 6		2SC3944A	TRANSISTOR	C33	CC45FCH1H220J	CERAMIC	2.7UF	J
Q7 , 8		2SA1535A	TRANSISTOR	C34	CC45FCH1H220J	CERAMIC	2.2UF	J
		2SC2921LB	TRANSISTOR	C35	CC45FCH1H71K	CERAMIC	4.7UF	K
				C28				
				C29 , -31	C91-0769-05	CERAMIC	0.01UF	K
				C32	C044KW1A470M	ELECTRO	4.7UF	10W
				C33	CC45FCH1H220J	CERAMIC	2.7UF	J
				C34	CC45FCH1H220J	CERAMIC	2.2UF	J
				C35	CC45FCH1H71K	CERAMIC	4.7UF	K

L:Scandinavia  
 Y:PK(For East, Hawaii)  
 X:England  
 Z:Australia  
 M:Other Areas

P:Canada  
 E:Europe  
 K:USA  
 T:England  
 X:Australia  
 M:Other Areas

△ indicates safety critical component  
 ▲ indicates safety critical component  
 △ indicates safety critical component  
 ▲ indicates safety critical component

## PARTS LIST

No. 14

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Parts without Part No. ne sont pas fournis.

Ref. No.	Address	Parts No.	Description	部品名 / 売格	Parts No.	Description	部品名 / 売格	Destin. nation	Ref. No.	Address	Parts No.	Description	部品名 / 売格	Destin. nation
C39	CEO4KW1C70M	ELECTRO	4.7UF	16WV	C170-172	CK45FB1H102K	CERAMIC	1000PF	K	C173	CEO4KW1V100W	ELECTRO	1.0UF	35WV
C40	CG2F1H103J	ELECTRO	0.010UF	J	C174	CEO4KW1V100W	NP-ELECTRO	2.2UF	50WV	C175	CG04HW112R2W	ELECTRO	4.7UF	10WV
C41	CG2F1H103J	ELECTRO	4.7UF	50WV	C176	CG04HW1470W	NP-ELECTRO	4.7UF	16WV	C177-160	CK45FF1H1103Z	CERAMIC	0.010UF	Z
C42	CG2F1H103J	ELECTRO	1.0UF	35WV	C178-186	CK45FF1H1103Z	CERAMIC	0.010UF	Z	C179	CG45FF1H103Z	CERAMIC	0.010UF	Z
C43 , 44	CG2F1H103J	ELECTRO	1.0UF	35WV	C187-188	CG45FF1H103Z	CERAMIC	0.010UF	Z	C189	CG45FF1H103Z	ELECTRO	1.0UF	35WV
C45 , 46	CG04KW1V100M	ELECTRO	1.0UF	35WV	C190	CG45FF1H103Z	CERAMIC	0.010UF	Z	C191	CG45FF1H103Z	CERAMIC	0.010UF	Z
C53 , 54	CG2F1H103J	NYLAR	3900PF	J	C192	CG45FS1H101J	CERAMIC	1000PF	J	C193	CG45FS1H101J	CERAMIC	1000PF	J
C55 , 56	CG2F1H103J	NYLAR	4700PF	J	C194	CG45FS1H130J	CERAMIC	220PF	K	C195	CG45FS1H130J	CERAMIC	39PF	J
C57	CG04KW1C70M	ELECTRO	4.7UF	16WV	C196	CG04KW1V100R	ELECTRO	1000PF	J	C197	CG04KW1V100R	ELECTRO	1000PF	J
C62	CG04KW1C70M	ELECTRO	4.7UF	16WV	C198	CG45FS1H122J	CERAMIC	3300PF	J	C199	CG45FS1H122J	ELECTRO	220PF	J
C63	CG04KW1V100M	ELECTRO	1.0UF	35WV	C200	CG04KW1A101M	ELECTRO	1000UF	10WV	C201	CG45FS1H102K	CERAMIC	1000PF	J
C64	CG45FF1H1472Z	CERAMIC	4700PF	Z	C202	CG92EM1H123J	NYLAR	0.012UF	J	C203	CG92EM1H123J	NYLAR	0.012UF	J
C65	CG45FF1H103Z	CERAMIC	0.010UF	Z	C204	CG92EM1H133ZJ	NYLAR	3300PF	J	C205	CG92EM1H133ZJ	NYLAR	3300PF	J
C66 , 67	CG2F1H103J	CERAMIC	0.010UF	K	C206	CG04KW1V100R	ELECTRO	4.7UF	35WV	C207	CG04KW1V100R	ELECTRO	4.7UF	35WV
C101-106	C91-0749-05	CERAMIC	220PF	K	C208	CG311, 312	CERAMIC	1000UF	10WV	C209	CG313, 314	CERAMIC	1000PF	J
C107, 108	CG45FS1H21J	CERAMIC	220PF	J	C210	CG315, 316	CERAMIC	1000PF	J	C211	CG317, 318	CERAMIC	1000PF	J
C109	CG45FS1H21J	CERAMIC	220PF	K	C212	CG319, 320	CERAMIC	1000PF	J	C213	CG321, 322	CERAMIC	1000PF	J
C110-112	CG1-0749-05	CERAMIC	220PF	K	C214	CG323, 324	CERAMIC	1000PF	J	C215	CG325, 326	CERAMIC	1000PF	J
C113	CG45FS1H21J	CERAMIC	220PF	J	C216	CG327, 328	CERAMIC	1000PF	J	C217	CG329, 330	CERAMIC	1000PF	J
C114	C91-0749-05	CERAMIC	220PF	K	C218	CG331, 332	CERAMIC	1000PF	J	C219	CG333, 334	CERAMIC	1000PF	J
C115, 116	CG04KW1V101M	ELECTRO	1.0UF	50WV	C219	CG335, 336	CERAMIC	1000PF	J	C220	CG337, 338	CERAMIC	1000PF	J
C117, 118	CG45FS1H21J	CERAMIC	220PF	J	C221	CG339, 340	CERAMIC	1000PF	J	C222	CG341, 342	CERAMIC	1000PF	J
C119, 120	CG45FS1H101J	CERAMIC	1.0UF	35WV	C223	CG343	CERAMIC	1000PF	J	C224	CG344, 345	CERAMIC	1000PF	J
C121, 122	CG45FS1H101J	CERAMIC	1.0UF	35WV	C225	CG346, 347	CERAMIC	1000PF	J	C226	CG348, 349	CERAMIC	1000PF	J
C123, 124	CG04KW1V101M	ELECTRO	1.0UF	50WV	C227	CG350, 351	CERAMIC	1000PF	J	C228	CG352, 353	CERAMIC	1000PF	J
C127, 128	CG45FS1H101J	CERAMIC	1.0UF	35WV	C229	CG354, 355	CERAMIC	1000PF	J	C230	CG356, 357	CERAMIC	1000PF	J
C129, 130	CG04KW1V101M	ELECTRO	1.0UF	50WV	C231	CG358, 359	CERAMIC	1000PF	J	C232	CG360, 361	CERAMIC	1000PF	J
C131, 132	CG45FS1H101J	CERAMIC	1.0UF	35WV	C233	CG362, 363	CERAMIC	1000PF	J	C234	CG364, 365	CERAMIC	1000PF	J
C133, 134	CG45FS1H101J	CERAMIC	1.0UF	35WV	C235	CG366, 367	CERAMIC	1000PF	J	C236	CG368, 369	CERAMIC	1000PF	J
C135, 136	CG04KW1V101M	ELECTRO	1.0UF	50WV	C237	CG370, 371	CERAMIC	1000PF	J	C238	CG372, 373	CERAMIC	1000PF	J
C137-140	CG45FS1H101J	CERAMIC	1.0UF	35WV	C239	CG374, 375	CERAMIC	1000PF	J	C240	CG376, 377	CERAMIC	1000PF	J
C141, 142	CG04KW1V101M	ELECTRO	1.0UF	50WV	C241	CG378, 379	CERAMIC	1.0UF	16WV	C242	CG380, 381	CERAMIC	1.0UF	50WV
C143, 144	CG45FS1H101J	CERAMIC	1.0UF	50WV	C243	CG382, 383	CERAMIC	1.0UF	16WV	C244	CG384, 385	CERAMIC	1.0UF	16WV
C145, 146	CG45FS1H102D	CERAMIC	2.0UF	D	C245	CG386, 387	CERAMIC	1.0UF	16WV	C246	CG388, 389	CERAMIC	1.0UF	16WV
C147, 148	*	*	*	*	C247	CG390, 391	CERAMIC	1.0UF	16WV	C248	CG392, 393	CERAMIC	1.0UF	16WV
C149, 150	CG45FS1H101J	CERAMIC	7.0PF	D	C249	CG394, 395	CERAMIC	1.0UF	16WV	C250	CG396, 397	CERAMIC	1.0UF	16WV
C151	CG04KW1V101M	ELECTRO	1.0UF	50WV	C251	CG398, 399	CERAMIC	1.0UF	16WV	C252	CG400, 401	CERAMIC	1.0UF	16WV
C152, 153	CG04KW1A101J	ELECTRO	4.7UF	10WV	C253	CG402, 403	CERAMIC	1.0UF	16WV	C254	CG404, 405	CERAMIC	1.0UF	16WV
C154	CG45FS1H1470J	CERAMIC	470F	J	C255	CG406, 407	CERAMIC	1.0UF	16WV	C256	CG408, 409	CERAMIC	1.0UF	16WV
C155	CG04KW2A01N	ELECTRO	1.0UF	100WV	C257	CG410, 411	CERAMIC	1.0UF	16WV	C258	CG412, 413	CERAMIC	1.0UF	16WV
C156	CG45FS1H102J	CERAMIC	220PF	J	C259	CG414, 415	CERAMIC	1.0UF	16WV	C260	CG416, 417	CERAMIC	1.0UF	16WV
C157	CG45FS1H102J	CERAMIC	2.0PF	C	C261	CG418, 419	CERAMIC	1.0UF	16WV	C262	CG420, 421	CERAMIC	1.0UF	16WV
C158	CG45FS1H22J	CERAMIC	2.0PF	C	C263	CG422, 423	CERAMIC	1.0UF	16WV	C264	CG424, 425	CERAMIC	1.0UF	16WV
C159	CG45FS1H1470J	CERAMIC	220PF	J	C265	CG426, 427	CERAMIC	1.0UF	16WV	C266	CG428, 429	CERAMIC	1.0UF	16WV
C160	CG04KW1H101M	ELECTRO	1.0UF	50WV	C267	CG430, 431	CERAMIC	1.0UF	16WV	C268	CG432, 433	CERAMIC	1.0UF	16WV
C161	CG45FS1H101J	CERAMIC	2.0PF	C	C269	CG434, 435	CERAMIC	1.0UF	16WV	C270	CG436, 437	CERAMIC	1.0UF	16WV
C162	CG45FS1H101J	CERAMIC	1.0UF	J	C271	CG438, 439	CERAMIC	1.0UF	16WV	C272	CG440, 441	CERAMIC	1.0UF	16WV
C163	CG04KW1A101M	ELECTRO	4.7UF	J	C273	CG442, 443	CERAMIC	1.0UF	16WV	C274	CG444, 445	CERAMIC	1.0UF	16WV
C164	CG45FS1H1470J	CERAMIC	470F	J	C275	CG446, 447	CERAMIC	1.0UF	16WV	C276	CG448, 449	CERAMIC	1.0UF	16WV
C165	CG04KW2A01M	ELECTRO	1.0UF	100WV	C277	CG450, 451	CERAMIC	1.0UF	16WV	C278	CG452, 453	CERAMIC	1.0UF	16WV
C166	CG45FS1H1470J	CERAMIC	470F	J	C279	CG454, 455	CERAMIC	1.0UF	16WV	C280	CG456, 457	CERAMIC	1.0UF	16WV
C167	CG45FS1H100C	CERAMIC	2.0PF	C	C281	CG458, 459	CERAMIC	1.0UF	16WV	C282	CG460, 461	CERAMIC	1.0UF	16WV
C168	CG45FS1H22J	CERAMIC	220PF	J	C283	CG462, 463	CERAMIC	1.0UF	16WV	C284	CG464, 465	CERAMIC	1.0UF	16WV
C169	CG04KW1C101M	ELECTRO	1.0UF	100WV	C285	CG466, 467	CERAMIC	1.0UF	16WV	C286	CG468, 469	CERAMIC	1.0UF	16WV
L:Scandinavia	USA	Canada	UK	Scandinavia	L10	CG404, 405	CERAMIC	1.0UF	16WV	L11	CG404-1091-17	CERAMIC	1.0UF	16WV
Y:Far East, Hawaii)	UK	Europe	Y:Far East, Hawaii)	Y:Far East, Hawaii)	L12	CG404-1091-17	CERAMIC	1.0UF	16WV	L13	CG404-1091-17	CERAMIC	1.0UF	16WV
Y:AFES(Europe)	Australia	Other Areas	Y:AFES(Europe)	Y:AFES(Europe)	X1	CG404-1122-05	CERAMIC	1.0UF	16WV	X1	CG404-1122-05	CERAMIC	1.0UF	16WV
C164	CG04KW1C101M	ELECTRO	1.0UF	100WV	X2	CG404-0295-05	CERAMIC	1.0UF	16WV	X2	CG404-0295-05	CERAMIC	1.0UF	16WV

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## No. 16

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Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	部品番号	Description	部品名 / 规 格	Parts No.	部品番号	Description	部品名 / 规 格	Desti- nation (付)	Re- marks (備考)
R6			RD14NB2E101J	RD	100	J 1/4W	IC11		IC(0P AMP X2)			
R11			RD14NB2E440J	RD-PROOF RS	220	J 1/4W	TC11		IC(0P AMP X2)			
R31			RD14NB2E221J	RD	100	J 1/4W	Q1	2SC1743 (F, R)	TRANSISTOR			
R38			RD14NB2E101J	RD	100	J 1/4W	Q2	2SC1745 (F, R)	TRANSISTOR			
R69			RD14NB2E101J	RD	120	J 1/4W	Q3	2SC2458 (Y, GR)	TRANSISTOR			
R181, 182			RD14NB2E221J	RD	220	J 1/4W	Q3	2SC2785 (F, R)	TRANSISTOR			
R187, 190			RD14NB2E221J	RD	120	J 1/4W	Q3	2SC3311A (Q, R)	TRANSISTOR		ET	
R209			RD14NB2E121J	RD	220	J 1/4W	Q4	2SC1740S (Q, R)	TRANSISTOR		ET	
R213, 214			RD14NB2E221J	RD	120	J 1/4W	Q4	2SC2458 (Y, GR)	TRANSISTOR		ET	
R222			RD14NB2E121J	RD	220	J 1/4W	Q4	2SC2785 (F, R)	TRANSISTOR		ET	
R225, 226			RD14NB2E221J	RD	10	J 1/4W	Q4	2SC3311A (Q, R)	TRANSISTOR			
R319			RD14NB2E101J	RD	100	J 1/4W	Q5	2SA1048 (Y, GR)	TRANSISTOR			
R342, 343			RD14NB2E101J	RD	100	J 1/4W	Q5	2SA1175 (F, E)	TRANSISTOR			
R346, 347			R23-3686-05	TRIMMING POT(22K) (FM, AM T-LEV)			Q5	2SA1309A (Q, R)	TRANSISTOR			
VR1, 2			R12-1617-05	TRIMMING POT(2.2K) (SEPARATION)			Q5	2SA1933S (Q, R)	TRANSISTOR			
VR3		2C	R29-5055-05	POTENTIOMETER(10K) (VOLUME)			Q7	2SC1740S (Q, R)	TRANSISTOR			
VR4		2C	R05-5041-05	POTENTIOMETER(BALANCE)			Q7	2SC2458 (Y, GR)	TRANSISTOR			
VR5		2C	R10-5045-05	POTENTIOMETER(LOUDNESS)			Q7	2SC3311A (Q, R)	TRANSISTOR			
VR6			S31-2132-05	SLIDE SWITCH(D-E, EM, CH, SPACE)	YM		Q9	2SC2003(L, K)	TRANSISTOR			
S1	2D		HSS104	DIODE			Q10	2SC1740S (Q, R)	TRANSISTOR			
D1	'2		1SS133	ZENER DIODE			Q10	2SC2458 (Y, GR)	TRANSISTOR			
D3			HZ55.1N(B2)	ZENER DIODE			Q10	2SC3311A (Q, R)	TRANSISTOR			
D4			HZ51N(B2)	ZENER DIODE			Q21	2SC1740S (Q, R)	TRANSISTOR			
D4			RD135S(B2)	ZENER DIODE			Q21	2SC2458 (Y, GR)	TRANSISTOR			
D10			RD54.7N(B2)	ZENER DIODE			Q21	2SC2785 (F, E)	TRANSISTOR			
D10			RD4.7ES(B2)	ZENER DIODE			Q21	2SC3311A (Q, R)	TRANSISTOR			
D11	'12		HSS104A	DIODE			Q22	2SC1175 (F, E)	TRANSISTOR			
D11	'12		1SS131	ZENER DIODE			Q22	2SA1109A (Q, R)	TRANSISTOR			
D13	'14		HZ51N(B2)	ZENER DIODE			Q22	2SA933S (Q, R)	TRANSISTOR			
D13	'14		RD115S(B2)	ZENER DIODE			Q23	2SC2785 (F, E)	TRANSISTOR			
D15	'16		HZ51N(B2)	ZENER DIODE			Q23	2SC2785 (F, E)	TRANSISTOR			
D15	'16		RD135S(B2)	ZENER DIODE			Q25	2SA1048 (Y, GR)	TRANSISTOR			
D17	'18		RD115S(B2)	ZENER DIODE			Q25	2SC2785 (F, E)	TRANSISTOR			
D19	'20		HZ51N(B2)	ZENER DIODE			Q25	2SA1109A (Q, R)	TRANSISTOR			
D21	'22		RD115S(B2)	ZENER DIODE			Q31	2SC2785 (F, E)	TRANSISTOR			
D21	'22		RD115S(B2)	ZENER DIODE			Q31	2SC2785 (F, E)	TRANSISTOR			
D23	'26		HSS104A	DIODE			Q31	2SC1175 (F, E)	TRANSISTOR			
D23	'26		1SS131	ZENER DIODE			Q31	2SC3311A (Q, R)	TRANSISTOR			
D27	'33		HSS104	ZENER DIODE			Q31	2SA1309A (Q, R)	TRANSISTOR			
D27	'33		1SS133	ZENER DIODE			Q33	2SA933S (Q, R)	TRANSISTOR			
IC1	*		LA1851N	IC(FM/AM MPX SYSTEM)			Q37	2SC2263 (F, S)	TRANSISTOR			
IC2			LC7218	IC(CPLL SYNTHESIZER)			Q41	2SC1175 (F, E)	TRANSISTOR			
IC3			NJ1465L	IC(0P AMP X2)			Q43	2SA1048 (Y, GR)	TRANSISTOR			
IC4			RC565L	IC(0P AMP X2)			Q43	2SA1309A (Q, R)	TRANSISTOR			
IC5	'6		TA4405	IC(MOTOR CONTROL)			Q43	2SA933S (Q, R)	TRANSISTOR			
IC7	'8		NJ4565D-D	IC(0P AMP X2)			Q45	2SC1175 (F, E)	TRANSISTOR			
IC7	'8		RC565D-D	IC(0P AMP X2)			Q47	2SA192 (F, E)	TRANSISTOR			
IC9			NJU7313L	IC(ANALOG SWITCH)			Q49	2SC2785 (F, E)	TRANSISTOR			
IC10			NJU7312L	IC(ANALOG SWITCH)			Q49	2SC2458 (Y, GR)	TRANSISTOR			

## No. 15

× New Parts  
Parts without Parts No. are not supplied.  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
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Ref. No.	Address	New Parts	Parts No.	部品番号	Description	部品名 / 规 格	Parts No.	部品番号	Description	部品名 / 规 格	Desti- nation (付)	Re- marks (備考)
R6			RD14NB2E101J	RD	100	J 1/4W	Q1	2SC1743 (F, R)	TRANSISTOR			
R11			RD14NB2E440J	RD	220	J 1/4W	Q2	2SC1745 (F, R)	TRANSISTOR			
R31			RD14NB2E221J	RD	100	J 1/4W	Q3	2SC2458 (Y, GR)	TRANSISTOR			
R38			RD14NB2E101J	RD	120	J 1/4W	Q3	2SC2785 (F, R)	TRANSISTOR			
R69			RD14NB2E101J	RD	220	J 1/4W	Q3	2SC3311A (Q, R)	TRANSISTOR			
R181, 182			RD14NB2E221J	RD	120	J 1/4W	Q3	2SC1740S (Q, R)	TRANSISTOR			
R187, 190			RD14NB2E221J	RD	220	J 1/4W	Q4	2SC2785 (F, R)	TRANSISTOR			
R209			RD14NB2E121J	RD	120	J 1/4W	Q4	2SC2458 (Y, GR)	TRANSISTOR			
R213, 214			RD14NB2E121J	RD	220	J 1/4W	Q4	2SC2785 (F, R)	TRANSISTOR			
R222			RD14NB2E221J	RD	10	J 1/4W	Q4	2SC3311A (Q, R)	TRANSISTOR			
R319			RD14NB2E101J	RD	100	J 1/4W	Q5	2SA1048 (Y, GR)	TRANSISTOR			
R342, 343			RD14NB2E101J	RD	100	J 1/4W	Q5	2SA1175 (F, E)	TRANSISTOR			
R346, 347			R23-3686-05	TRIMMING POT(22K) (FM, AM T-LEV)			Q5	2SC1740S (Q, R)	TRANSISTOR			
VR1, 2			R12-1617-05	TRIMMING POT(2.2K) (SEPARATION)			Q5	2SC2458 (Y, GR)	TRANSISTOR			
VR3		2C	R29-5055-05	POTENTIOMETER(10K) (VOLUME)			Q7	2SC1740S (Q, R)	TRANSISTOR			
VR4		2C	R05-5041-05	POTENTIOMETER(BALANCE)			Q7	2SC2458 (Y, GR)	TRANSISTOR			
VR5		2C	R10-5045-05	POTENTIOMETER(LOUDNESS)			Q7	2SC3311A (Q, R)	TRANSISTOR			
S1	2D		S31-2132-05	SLIDE SWITCH(D-E, EM, CH, SPACE)	YM		Q9	2SC2003(L, K)	TRANSISTOR			
D1	'2		HSS104	DIODE			Q10	2SC1740S (Q, R)	TRANSISTOR			
D3			1SS133	ZENER DIODE			Q10	2SC2458 (Y, GR)	TRANSISTOR			
D4			HZ55.1N(B2)	ZENER DIODE			Q21	2SC1740S (Q, R)	TRANSISTOR			
D4			HZ51N(B2)	ZENER DIODE			Q21	2SC2458 (Y, GR)	TRANSISTOR			
D10			RD135S(B2)	ZENER DIODE			Q21	2SC2785 (F, E)	TRANSISTOR			
D10			RD4.7ES(B2)	ZENER DIODE			Q22	2SC3311A (Q, R)	TRANSISTOR			
D11	'12		HSS104A	DIODE			Q22	2SA1109A (Q, R)	TRANSISTOR			
D11	'12		1SS131	ZENER DIODE			Q22	2SA933S (Q, R)	TRANSISTOR			
D13	'14		HZ51N(B2)	ZENER DIODE			Q23	2SC2785 (F, E)	TRANSISTOR			
D13	'14		RD115S(B2)	ZENER DIODE			Q23	2SC2785 (F, E)	TRANSISTOR			
D15	'16		HZ51N(B2)	ZENER DIODE			Q25	2SA1048 (Y, GR)	TRANSISTOR			
D17	'18		RD115S(B2)	ZENER DIODE			Q25	2SC2785 (F, E)	TRANSISTOR			
D19	'20		HZ51N(B2)	ZENER DIODE			Q31	2SC2785 (F, E)	TRANSISTOR			
D21	'22		RD115S(B2)	ZENER DIODE			Q31	2SC2785 (F, E)	TRANSISTOR			
D23	'26		HSS104A	DIODE			Q31	2SC1175 (F, E)	TRANSISTOR			
D23	'26		1SS131	ZENER DIODE			Q31	2SC3311A (Q, R)	TRANSISTOR			
D27	'33		HSS104	ZENER DIODE			Q33	2SA933S (Q, R)	TRANSISTOR			
D27	'33		1SS133	ZENER DIODE			Q37	2SC2263 (F, S)	TRANSISTOR			
IC1	*		LA1851N	IC(FM/AM MPX SYSTEM)			Q41	2SA1123 (R, S)	TRANSISTOR			
IC2			LC7218	IC(CPLL SYNTHESIZER)			Q43	2SA1048 (Y, GR)	TRANSISTOR			
IC3			NJ1465L	IC(0P AMP X2)			Q43	2SA1309A (Q, R)	TRANSISTOR			
IC4			RC565L	IC(0P AMP X2)			Q43	2SA933S (Q, R)	TRANSISTOR			
IC4			TA4405	IC(MOTOR CONTROL)			Q43	2SC2785 (F, E)	TRANSISTOR			
IC5	'6		NJ4560D-D	IC(0P AMP X2)			Q45	2SC1175 (F, E)	TRANSISTOR			
IC7	'8		RC565D-D	IC(0P AMP X2)			Q47	2SA192 (F, E)	TRANSISTOR			
IC7	'8		NJU7313L	IC(CANALOG SWITCH)			Q49	2SC2785 (F, E)	TRANSISTOR			
IC9			NJU7312L	IC(CANALOG SWITCH)			Q49	2SC2458 (Y, GR)	TRANSISTOR			
IC10			NJU7312L	IC(CANALOG SWITCH)			Q49	2SC2263 (F, S)	TRANSISTOR			

# PARTS LIST

No. 18

Ref. No.	参照番号	Address	位番	部品番号	Parts No.	Description		部品名・規格	Destination	Remarks
						New Parts	新			
C85				CF92FV1H184J	MF	0.18UF	J			
C86				CC45FSU1H1331J	CERAMIC	330PF	J			
C87	-89		*	C90-3224-05	ELECTRO	4.7UF	16WV			
C89	-91		*	CC45FSU1H101J	CERAMIC	1.00PF	J			
C92	-95		*	C90-3224-05	ELECTRO	4.7UF	16WV			
C98	, 99		*	C90-3224-05	ELECTRO	4.7UF	16WV			
C100			*	CC45FSU1H181J	CERAMIC	180PF	J			
C101			*	C90-3224-05	ELECTRO	4.7UF	16WV			
C102			*	CC92FV1H03J	NYLAR	0.010UF	J			
C103			*	C90-3224-05	ELECTRO	4.7UF	16WV			
C104	, 105		*	C90-3230-05	ELECTRO	100UF	16WV			
C106	-109		*	C90-3225-05	ELECTRO	100UF	16WV			
C110			*	CC45FSU1H102K	CERAMIC	1000PF	K			
C111			*	C90-3225-05	ELECTRO	4.7UF	16WV			
C112			*	C90-3230-05	ELECTRO	100UF	16WV			
C113			*	CC45FSU1H101J	CERAMIC	100PF	J			
C114			*	C90-3225-05	ELECTRO	10UF	16WV			
C115	, 116		*	CC45FSU1H132K	CERAMIC	3300PF	K			
C117			*	C90-3225-05	ELECTRO	10UF	16WV			
C118			*	CC45FSU1H104J	MF	0.10UF	J			
C119			*	C90-3216-05	CERAMIC	1000PF	K			
C120			*	C90-3253-05	ELECTRO	1UF	50WV			
C123			*	C90-3253-05	MF	0.10UF	J			
C124			*	C90-3221-05	ELECTRO	0.10UF	J			
C125			*	C90-3216-05	MF	0.10UF	J			
C126			*	C90-3216-05	ELECTRO	0.10UF	J			
C127			*	C90-3216-05	ELECTRO	330UF	6.3WV			
C128			*	C90-3221-05	MF	0.10UF	J			
C129			*	C90-3221-05	ELECTRO	100UF	10WV			
C130			*	C90-3216-05	MF	0.10UF	J			
C132			*	C90-3224-05	ELECTRO	330UF	6.3WV			
C133			*	C90-3224-05	ELECTRO	4.7UF	16WV			
C134			*	C90-3212-05	ELECTRO	4.7UF	6.3WV			
C135			*	C90-3212-05	MF	0.10UF	J			
C136			*	C90-3212-05	ELECTRO	100UF	10WV			
L1	'2		*	L79-0799-05	LC FILTER					
L3	-5		*	L40-0291-17	SMALL FIXED INDUCTOR (1UH)					
X1			*	L78-0267-05	RESONATOR (4.194MHz)					
X2			*	L78-0291-05	RESONATOR (11.289MHz)					
CP1			*	R90-0500-05	MULTI-COMP	100KX6	J	1/4W		
CP2			*	R90-0492-05	MULTI-COMP	100KX8	J	1/6W		
CP3			*	R90-0500-05	MULTI-COMP	100KX6	J	1/4W		
CP4			*	R90-0809-05	MULTI-COMP	10KX4	J	1/6W		
CP5			*	R90-0855-05	MULTI-COMP	100KX5	J	1/6W		
R157			*	RS14RB3010J	FL-PR00F	RS 100	J	2W		
R194	-197		*	RS14RB2101J	RD	100	J	1/4W		
R200	, 201		*	RS14RB2101J	RD	100	J	1/4W		
R205	, 206		*	RS14RB2221J	RD	220	J	1/4W		
VRI	, 2		*	RS06-3075-05	POTENTIOMETER (10KB) (TRE, BASS)					
S1			*	S40-1064-05	PUSH SWITCH (@POWER)					
S3	-5		*	S40-1064-05	PUSH SWITCH					
S6	-9		*	S40-1064-05	PUSH SWITCH					
S10	-47		*	S40-1064-05	PUSH SWITCH					
D5	-13		*	HS104	DIODE					
D5	-13		*	TS133	DIODE					
D15			*	HS2-7N(B2)	ZENER DIODE					
D15			*	RD100E	ZENER DIODE					

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Teile ohne Parts No. werden nicht geliefert.

No. 17

Ref. No.	Address	New Parts	Parts No.	Description	部品名／規格	Desti- nation	Re- marks
参照番号	位置	新部品番号				仕	備考
Q49		25G3311A1Q(R)		TRANSISTOR			
Q51, 52		25G9921(G, E)		TRANSISTOR			
Q53, 54		25G2621(R, S)		TRANSISTOR			
Q55		25A1123(R, S)		TRANSISTOR			
Q56, 57		25G9921(F, E)		TRANSISTOR			
Q58, 59		25G1845(F, E)		TRANSISTOR			
Q60		25G9921(F, E)		TRANSISTOR			
DT1	2D	W02-1041-15	FM FRONT-END ASSY		ET		
DT1	2D	W02-1042-15	FM FRONT-END ASSY		KPM		
			DISPLAY UNIT (X14 - 3400 - 10)				
D1	-4	B30-1291-05	LED				
D4		B30-1291-05	LED				
C1		C90-1827-05	BACKUP ELECTRO	0.047F	5.5W		
C2		C90-1827-05	CERAMIC	0.010UF	10W		
C3	.4	C91-0769-05	ELECTRO	0.01UF	K		
C5		C90-3219-05	CERAMIC	0.01UF	10W		
C6	-8	C91-0769-05	CERAMIC	0.01UF	K		
C9	-11	*	C90-2256-05	ELECTRO	4.7UF	50W	
C12		*	C445FF1H101J	CERAMIC	0.010UF	2	
C13		*	C90-3214-05	ELECTRO	100UF	6.3W	
C14		*	C90-3250-05	ELECTRO	0.33UF	50W	
C15		*	C90-3222-05	ELECTRO	100UF	10W	
C16	-20	*	C91-0769-05	CERAMIC	0.01UF	K	
C21	.22	*	C90-3224-05	ELECTRO	4.7UF	16W	
C23	.24	*	C445FF1H101J	CERAMIC	100UF	J	
C25	.26	*	C90-3254-05	ELECTRO	2.2UF	50W	
C27	.28	*	C90-3224-05	ELECTRO	4.7UF	16W	
C29	.30	*	C445FF1H331J	CERAMIC	330PF	J	
C31	.32	*	C90-3254-05	ELECTRO	2.2UF	50W	
C33	.34	*	C992EM1H1332J	CERAMIC	3300PF	J	
C35	.36	*	C445FF1H101J	CERAMIC	100PF	J	
C41	.42	*	C992EM1H1633J	MYLAR	0.016UF	J	
C43	.44	*	C445FF1H203J	CERAMIC	0.020UF	J	
C45	.46	*	C945BS1H821K	CERAMIC	82PF	16W	
C53	.54	*	C445FF1H391K	CERAMIC	100PF	J	
C55	.56	*	C90-3224-05	ELECTRO	4.7UF	16W	
C57	.58	*	C90-3253-05	ELECTRO	1UF	50W	
C59	.60	*	C922V1H73J	MF	0.147UF	J	
C61	.64	*	C445FF1H22J	CERAMIC	220PF	J	
C65	.66	*	C445FF1H470J	CERAMIC	470F	J	
C67	-70	*	C90-3225-05	ELECTRO	1UF	50W	
C71	-74	*	C90-3224-05	ELECTRO	4.7UF	16W	
C75		*	C445FF1H331J	CERAMIC	330PF	J	
C76		*	C90-3254-05	ELECTRO	2.2UF	50W	
C77		*	C445FF1H101J	CERAMIC	100PF	J	
C78		*	C445FF1H331J	CERAMIC	330PF	J	
C79		*	C992EM1H203J	MYLAR	0.020UF	J	
C81		*	C992EV1H243J	MF	0.02UF	J	
C82		*	C992EM1H102J	MYLAR	1000PF	J	
C83		*	C90-3224-05	ELECTRO	4.7UF	16W	
C84		*					

L:Scand  
Y:PX(F<sub>2</sub>)  
Y:AAFE

L:Scandinavia  
Y:PX(Far East, Hawaii)  
Y:AAFES(Europe)

indicates safety critical components.

× New Parts  
Parts without Parts No. are not supplied  
Les articles non mentionnés dans le Parts No. ne sont pas fournis.  
Teile ohne Parts No. werden nicht geliefert.

## No. 19

Ref. No.	Address	New parts 参照番号	位 置	品 型 号	Parts No.	Description	部品名 / 売格	Desti- nation 向地	Re- marks 備考
D16				HSS104		DIODE			
D16				ISS133		ZENER DIODE			
D18				HZSS 1N(B2)		ZENER DIODE			
D18				RD5.1ES(B2)		ZENER DIODE			
D19	-26			HSS104		DIODE			
D19	-26			ISS133		DIODE			
D27				HSS104		DIODE			
D27				ISS133		DIODE			
D28				HSS104		DIODE			
D28				ISS133		DIODE			
D31				HSS104		DIODE			
D31				ISS133		DIODE			
D32				HSS104		DIODE			
D32				ISS133		DIODE			
D41	-49			HSS104		DIODE			
D50	,51			ISS133		DIODE			
ED1		1A	*	HZS1N(B2)		ZENER DIODE			
IC1			*	RD13ES(B2)		FLUORESCENT INDICATOR TUBE			
IC2			*	ISS133		IC(8-BIT I/O EXPANDER)			
IC3			*	CKP50124-139Q		IC(CODEC)			
IC4			*	NJU3711D		IC(CODEC)			
IC11-22			*	XKU4028B		IC(SYSTEM RESET)			
IC11-22			*	PT529C		IC(OP AMP X2)			
IC2,24			*	NJMM4365L		IC(OP AMP X2)			
IC25			*	RC4565L		IC(OP AMP X2)			
IC26			*	R238L		IC(OP AMP X2)			
IC27			*	NJU7311L		IC(ANALOG SWITCH)			
			*	TC9213P		IC(ZCH ELECTRONIC VOLUME)			
			*	YSS215-F		IC(DALBY PROLOGIC)			
IC28			*	HM65256BLFP-10		IC(S-RAM)			
IC29			*	NJM78L05A		IC(VOLTAGE REGULATOR/ +5V)			
Q1	,2			2SC1440S(Q,R)		TRANSISTOR			
Q1	,2			2SC2458(Y,GR)		TRANSISTOR			
Q1	,2			2SC2785(F,E)		TRANSISTOR			
Q1	,2			2SC3311A(Q,R)		TRANSISTOR			
Q3				2SA1048(Y,GR)		TRANSISTOR			
Q3				2SA1175(F,E)		TRANSISTOR			
Q3				2SA1109A(Q,R)		TRANSISTOR			
Q3				2SA933S(Q,R)		TRANSISTOR			
Q11	,12			2SC2878(A,B)		TRANSISTOR			
Q13				2SA1048(Y,GR)		TRANSISTOR			
Q13				2SA1175(F,E)		TRANSISTOR			
Q13				2SA1109A(Q,R)		TRANSISTOR			
Q13				2SA933S(Q,R)		TRANSISTOR			
A1		1A		W02-0975-05		ELECTRIC CIRCUIT MODULE			
A1		1A		W02-1046-05		ELECTRIC CIRCUIT MODULE			
A1		1A		W02-1129-05		ELECTRIC CIRCUIT MODULE			

L:Scandinavia  
K:USA  
Y:AFF(S) East, Hawaii)  
X:AFF(S) Europe  
Y:Australia  
T:England  
E:Europe  
M:Other Areas

△ indicates safety critical components

## SPECIFICATIONS

## (For U.S.A. and Canada)

## Audio section

## Rated power output at the STEREO operation

120 watts per channel minimum RMS, both channels driven at 8 %, from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortions. (FTC)

## Power output at the Surround operation

Front (1 kHz, 0.9% T.H.D. at 8 Ω) ..... 75 W+75 W  
Center (1 kHz, 0.9% T.H.D. at 8 Ω) ..... 75 W  
Rear (1 kHz, 0.9% T.H.D. at 8 Ω) ..... 20 W+20 W

Total harmonic distortion (1 kHz, 8 Ω) .. 0.003% at 65 W  
Frequency response

CD ..... 10 Hz~50 kHz, +0 dB, -3 dB

## Signal to noise ratio (IHF-A)

PHONO (MM) ..... 78 dB for 5 mV input

CD, TAPE, VIDEO ..... 100 dB for 200 mV input

## Input sensitivity / impedance

PHONO (MM) ..... 2.5 mV / 47 kΩ

CD, TAPE, VIDEO ..... 200 mV / 47 kΩ

## Tone controls

BASS ..... ±10 dB (at 100 Hz)

TREBLE ..... ±10 dB (at 10 kHz)

## Loudness control at -30 dB VOLUME level

..... +8 dB (100 Hz), +2dB (10 kHz) max.

## Video section

## VIDEO inputs / outputs

(Composite) ..... 1 Vp-p / 75 Ω

## S-VIDEO inputs / outputs

(Luminance signal) ..... 1 Vp-p / 75 Ω

(Chrominance signal) ..... 0.286 Vp-p / 75 Ω

## FM Tuner section

Tuning frequency range ..... 87.5 MHz~108 MHz

Antenna impedance ..... 75 Ω unbalanced

Sensitivity (IHF) ..... 10.8 dBf (0.95 μV at 75 Ω)

## 50 dB quieting sensitivity

MONO ..... 16.2 dBf (3.5 μV at 75 Ω)

STEREO ..... 38.2 dBf (45 μV at 75 Ω)

## Total harmonic distortion at 1,000 Hz

MONO ..... 0.1%

STEREO ..... 0.2%

## Signal to noise ratio at 65 dBf (IHF)

MONO ..... 80 dB

STEREO ..... 74 dB

Selectivity (IHF ±400 kHz) ..... 53 dB

Stereo separation (IHF at 1 kHz) ..... 50 dB

Frequency response ..... 30 Hz~15 kHz, +0.5 dB, -2.0 dB

## AM Tuner section

Tuning frequency range ..... 530 kHz~1,700 kHz

Usable sensitivity ..... 10 μV / (400 μV / m)

Total harmonic distortion ..... 0.3%

Signal to noise ratio ..... 50 dB

Selectivity ..... 25 dB

## General

Power consumption ..... 3 A

Dimensions ..... 440 (W) x 163 (H) x 415 (D) mm  
(17-5 / 16") x (6-7 / 16") x (16-5 / 16")

Weight (net) ..... 13.9 kg (30.6 lb)

AC outlets ..... switched x3, total 200 W, 1.6 A max.

## (For other countries)

## Audio section

## Rated power output at the STEREO operation

(IHF '66) from 20 Hz to 20 kHz, 0.06% T.H.D. at 8 Ω ..... 140 W + 140 W

## Power output at the Surround operation

Front (1 kHz, 0.9% T.H.D. at 8 Ω) ..... 75 W + 75 W

Center (1 kHz, 0.9% T.H.D. at 8 Ω) ..... 75 W

Rear (1 kHz, 0.9% T.H.D. at 8 Ω) ..... 20 W + 20 W

Total harmonic distortion ..... (1 kHz, 8 Ω) 0.03% at 65 W

## Frequency response

CD ..... 10 Hz~50 kHz, +0 dB, -3 dB

## Signal to noise ratio (IHF-A)

PHONO (MM) ..... 78 dB for 5 mV input

CD, TAPE, VIDEO ..... 100 dB for 200 mV input

## Input sensitivity / impedance

PHONO (MM) ..... 2.5 mV / 47 kΩ

CD, TAPE, VIDEO ..... 200 mV / 47 kΩ

## Tone controls

BASS ..... ±10 dB (at 100 Hz)

TREBLE ..... ±10 dB (at 10 kHz)

## Loudness control at 30 dB VOLUME level

..... 8 dB (100 Hz), +2 dB (10 kHz) max.

## VIDEO inputs / outputs

(Composite) ..... 1 Vp-p / 75 Ω

## S-VIDEO inputs / outputs

(Luminance signal) ..... 1 Vp-p / 75 Ω

(Chrominance signal) ..... 0.286 Vp-p / 75 Ω

## FM Tuner section

Tuning frequency range ..... 87.5 MHz~108 MHz

Antenna impedance ..... 300 Ω balanced & 75 Ω unbalanced

Sensitivity (IHF) ..... 10.8 dBf (0.95 μV at 75 Ω)

50 dB quieting sensitivity

MONO ..... 16.2 dBf (3.5 μV at 75 Ω)

STEREO ..... 38.2 dBf (45 μV at 75 Ω)

## Total harmonic distortion at 1 kHz

MONO ..... 0.1%

STEREO ..... 0.2%

## Signal to noise ratio at 65 dBf (IHF)

MONO ..... 80 dB

STEREO ..... 74 dB

Selectivity (IHF ±400 kHz) ..... 53 dB

Stereo separation (IHF at 1 kHz) ..... 50 dB

Frequency response ..... 30 Hz~15 kHz, +0.5 dB, -2.0 dB

## AM Tuner section

## Tuning frequency range

9 kHz step ..... 531 kHz~1,602 kHz

10 kHz step ..... 530 kHz~1,610 kHz

Usable sensitivity ..... 10 μV / (400 μV / m)

Total harmonic distortion ..... 0.3%

Signal to noise ratio ..... 50 dB

Selectivity ..... 25 dB

## General

Power consumption ..... 300 W (IEC)

Dimensions ..... 440 (W) x 163 (H) x 415 (D) mm

Weight (net) ..... 13.9 kg

AC outlets ..... switched x3, total 200 W max.